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ABSTRACT

The guide is designed to accompany fifteen 20-minute economic education film/television programs for ages nine to 13. The emphasis is on economic decision making and problem solving. A statement of key concepts, suggestions for introducing the program, a summary, questions to help students resolve the problem posed at the end of the program, and class activities are included. Lessons one through four examine the concept of scarcity. A five-step model helps students develop skills in analyzing problems and making decisions in personal and social situations. Lessons five through eight focus on increasing productivity as a way of eliminating scarcity. Specialization and division of labor, investing in capital goods, and improving education and training of workers are discussed. Activities include creating a greeting card assembly line and simulating an investment decision. Lesson nine deals with how voluntary exchange and the use of money can facilitate the allocation of limited resources. Activities include a barter game and creating stories about money and exchange. Lessons 10 through 13 are concerned with market prices and how they help in deciding the use of limited resources. Students analyze graphs illustrating the market demand for hot dogs and yoyos and plot supply graphs for the same products. Lessons 14 and 15 discuss solving two problems which occur in an unregulated, free economic system: reducing indirect costs and increasing indirect benefits. Information on films or videocassettes is provided by Agency for Instructional Television, Box A, Bloomington, Indiana, 47401. (KC)

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TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

A guide to Trade-offs

Fifteen 20-minute color television/film programs in economic education for children nine to thirteen years old.

This guide was created under the editorial supervision of AIT.

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Introduction

Economics is an important part of our daily lives. Yet, it is traditionally thought of as a difficult subject. Many teachers feel unprepared to teach economics; and, despite its importance, it has rarely made its way into the elementary curriculum.

"Trade-offs" is designed to improve economics instruction in United States and Canadian schools. This series of fifteen lessons, for children from nine to thirteen, will help students think their way through economic problems and increase their understanding of economics. On a broader scale, it will help them become more effective decision-makers and ultimately more responsible citizens.

The Lesson Components

Each lesson consists of a 20-minute color television/film program plus teacher's guide material to facilitate classroom follow-up. Each program begins with a short segment that identifies key points that students and teachers should watch for. This is followed by the dramatization of a fundamental economic problem relevant to the daily life of the student. Special visuals then emphasize the economic principles and reasoning processes involved. The last portion of the program introduces, but does not resolve, another problem involving the same economic principles, and ends by posing a question to the viewers.

The guide materials for each lesson include a statement of content that identifies key concepts; a suggested statement for introducing the program to students; a summary of the program that restates the closing question; questions and activities to help students resolve the problem posed at the end of the program; and other activities for reinforcement or application. Some of these activities will be appropriate for most students in most classes, while others will be suitable only for older classes or advanced students. Like all materials in this guide, they are to be used entirely at the discretion of the teacher.

To further assist the teacher, the objectives to be accomplished through each program and its accompanying activities are listed together on pages 4 and 5.

Structure of the Series

The first four lessons are based on the fundamental economic fact of scarcity. Since limited resources do not permit us to have everything we want, we must choose the things we want most. But when limited resources have alternative uses, choosing one thing also means giving up something else. Deciding which alternative to choose is sometimes not an easy task. A five-step decision-making model is introduced to help students develop skill in analyzing problems and making decisions in both personal and social situations.

Lessons 5 through 8 deal with increasing productivity. Getting more output from our limited resources is one way of alleviating (but not eliminating) the basic economic fact of scarcity. Choices are still inevitable, but they are often less painful if productivity is increasing. In addition to getting more output from the same input, increasing productivity can be used to get the same output with less input, thus permitting conservation of limited resources. Specialization and division of labor, investing in capital goods, and improving the education and training of workers are examined as different ways of increasing productivity. Each of the lessons in this group is designed to provide practice in applying the basic problem-solving skills developed in the first four lessons.

Lesson 9 deals with how voluntary exchange and the use of money can facilitate the allocation of limited resources.

The next four lessons are concerned with mar-

Introduction Cont'd

ket prices and how they help us decide the way we use our limited resources. Lessons 10 and 11 explore the concepts of market demand and market supply. Lesson 12 shows how demand and supply can work together to establish a market clearing price at which there is neither a surplus nor a shortage; and Lesson 13 examines how changes in demand, supply, and market clearing prices effect the way our limited resources are used.

Finally, Lessons 14 and 15 illustrate two problems that occur in an unregulated, free market economic system: goods or services that inflict indirect costs on others tend to be overproduced, and goods and services that provide indirect benefits to others tend to be underproduced. A discussion of what, if anything, should be done about these problems provides an exercise in the application and integration of the material presented in all of the preceding lessons.

Flexible Materials

Because of the emphasis on systematic decision-making, "Trade-offs" will fit into existing curricula in a variety of ways. The programs focus on economic decisions, but the decision-making process can be extended to other areas. Although the programs are primarily intended for use in sequence, there are logical units that can be used in different contexts to emphasize various learning skills. On the inside back cover of this guide is a skills matrix that correlates specific learning skills with particular lessons.

The guide has been designed to provide maximum help without being restrictive. Most of the suggested teaching techniques are highly flexible. For example, group work could become a class discussion and a question for discussion could become a written assignment. The use of "Trade-offs" can vary with the imagination and creativity of individual teachers and school systems.

Lesson Objectives

After:	Students will be able to:
LESSON 1	• Identify possible alternative uses of a limited resource.
	• Explain why a choice is inevitable when a limited resource has alternative uses.
	• Point out the opportunity cost of a personal choice.
LESSON 2	• Apply the five-step decision-making process to a personal decision.
	• State the opportunity cost of the decision.
LESSON 3	• Suggest alternative methods of allocating a limited resource.
	• Identify the criteria implied in each allocating method.
	• Analyze the advantages and disadvantages of each method in terms of who gains and who loses.
	• Apply the decision-making process to the allocation of a scarce resource.
LESSON 4	• Define "trade-off" as giving up some of one thing to get some of another thing.
	• Generalize that more desirable solutions often result when two or more objectives are partially satisfied rather than when one objective is achieved completely to the exclusion of others.
	• Point out that different people make different trade-offs depending on which objectives are most important to them.
LESSON 5	• Cite examples of producing more output with the same inputs.
	• Cite examples of producing the same output with fewer inputs.
	• Outline the advantages and disadvantages of various methods of increasing productivity.
	• Apply the decision-making process to a problem involving the advantages and disadvantages of increasing productivity.
LESSON 6	• Summarize the advantages and disadvantages of specialization and division of labor.

After:	Students will be able to:
	• Explain how specialization and division of labor increases productivity.
	• Evaluate the consequences of specialization in terms of specific goals.
LESSON 7	• Summarize the advantages and disadvantages of investment in capital goods.
	• Explain how investment in capital goods increases productivity.
	• Evaluate the consequences of investing in capital goods in terms of specific goals.
LESSON 8	• Summarize the advantages and disadvantages of investment in human capital.
	• Explain how investment in human capital improves productivity.
	• Evaluate the consequences of investing in human capital in terms of specific goals.
LESSON 9	• Cite examples of exchange and describe the ways both parties expect to benefit.
	• Explain how the use of money facilitates exchange.
	• List two forms of money used today, pointing out the advantages and disadvantages of each.
LESSON 10	• Outline the factors that influence how much of an item people will buy.
	• Predict how changes in the price of an item influence the amount that people will buy.
	• List at least two things that might change the amount of an item that people will buy at any given price.
	• Describe a demand graph and explain how it would change if people's incomes increased.
LESSON 11	• Outline the factors that influence the quantity of an item people will offer for sale.
	• Predict how changes in the price of a product influence the amount people will offer for sale.
	• Give an example of one thing that would change the amount of a product or service people will offer for sale at any given price.
	• Describe a supply graph and explain how it would change if there were an increase in the cost of production.
LESSON 12	• Define a market clearing price as one at which there is neither a surplus nor a shortage.
	• Distinguish between a shortage and a surplus by explaining that a shortage exists when the price is below the market clearing price and a surplus exists when the price is above the market clearing price.
	• State what tends to happen to prices when a shortage exists and when a surplus exists.
	• Interpret a supply and demand graph to determine the market clearing price of a product and indicate the quantity that would be exchanged at that price.
LESSON 13	• Explain how a change in consumer purchases in one market can have unforeseen consequences in other markets.
	• Predict how changes in supply, demand, market clearing price, and market clearing quantity will affect one another in a specific situation involving two different markets.
LESSON 14	• Give examples of situations involving indirect cost.
	• Propose alternative methods for reducing indirect costs, outlining the advantages and disadvantages of each method.
	• Apply the decision-making process to a problem involving indirect costs.
LESSON 15	• Give examples of situations involving indirect benefits.
	• Propose alternative methods for increasing indirect benefits, outlining the advantages and disadvantages of each method.
	• Apply the decision-making process to a problem involving indirect benefits.

Choice

This lesson introduces the important concept of opportunity cost. The program is about children who, like everyone else, have limited amounts of resources such as time and money. The children recognize they must frequently choose between the different ways they can use their resources. Inevitably, choosing one thing means giving up the opportunity to choose something else.

Opportunity cost is defined as what must be given up when one makes a choice. Considering opportunities that must be given up is an important aid in systematic decision-making, and repeated use of this concept will be made in later lessons.

BEFORE THE PROGRAM

Tell your students that this program is about making choices. In making choices, the girls and boys in the program realize they can't have everything. Ask your students to look for the choices the young people make and what they give up.

PROGRAM SUMMARY

Gordon and his friends receive a trip to an amusement park and $6 worth of tickets. However, Gordon wants to go to a ball game played at the same time as the trip and must choose between the two.

He chooses the amusement park but finds that he and his friends face other choices when they get there. Harold has to decide whether to use his tickets for food or for rides, Loretta whether to use her last film exposure for a picture of Julia or for a group shot to give to the sponsors of the trip, and Sammy whether to use her allowance for more tickets to the water sled or to save it for the movies.

Special visuals review these choices and introduce the term "opportunity cost."

Later the group sees a building under construction on the field where they played ball. Each child speculates about what is being built. Gordon envisions a movie theatre; Harold, a fire station; Joe, an office building; and a police officer suggests a gymnasium. They offer reasons for their choices, but recognize that there is not enough land, labor, steel, and cement to construct everything they would like.

The viewer is asked, "What would you do if you had to choose what to build?"

AFTER THE PROGRAM

1. What ideas did the children have about what was being built on their ball field? (*Fire station, office building, movie theatre.*)
2. Are there other possibilities? (*List on board.*)
3. Can all of these be built there? Why not? (*Limited resources—land, steel, cement, labor.*)
4. What do you think should be built? (*Allow students to express their personal choices. Don't force agreement.*)
5. Why do you think this is a good choice? (*Encourage students to give reasons for their choices. More attention is given to the reasons for choices, called criteria, in Lessons 2 and 3. These lessons introduce a formal decision-making process of which criteria are an important part.*)
6. What is the opportunity cost of this choice? (*The opportunity cost of a fire station, for example, would be the loss of the building that could have*

been constructed in place of the fire station. Note that the opportunity cost is not all of the other buildings that could be built on the lot but only the most desirable of the unused alternatives. Thus, depending on your point of view, the opportunity cost of the fire station is either an office building or a movie theatre, but not both.) Do you still think the choice was a good one? Why, or why not? (*See if students change their minds after considering the opportunity cost of their original choices. Again, make no attempt to force students to change their minds or to agree on a single choice.*)

OTHER ACTIVITIES

1. **Identifying Opportunity Cost**

   Below are four situations in which choices were made. After reading each to the class, ask: a. Why was it necessary to make a choice? b. What was the opportunity cost in each situation?

   - Karen studied Monday night instead of going to the ball game. (*a. limited time. b. opportunity cost of studying: ball game.*)
   - Blair chose to take karate lessons rather than music lessons on Saturday mornings. (*a. limited time. b. opportunity cost of karate lessons: music lessons.*)
   - Toby planned to buy an ice cream sundae with the $1 left from his allowance. On the way to the store, however, he saw the latest skateboard magazine on sale for $1 and bought that instead. (*a. limited money. b. opportunity cost of magazine: ice cream sundae.*)
   - John took two free Saturdays to make a pitcher out of modeling clay. He sold it for $5 at a craft fair. (*a. limited time and materials. b. opportunity costs of making the pitcher: two free Saturdays and other items that could have been made from the clay.*)

2. **Making Personal Choices**

   Ask students to list some choices that they have made recently. What were their alternatives? Which did they choose? What was the opportunity cost of each choice? (*If students have trouble listing choices, suggest that they think of choices they make at recess or at lunch.*)

3. **Spending $ $**

   Present the following problem to the class:
   Kathy has $10. She wants to purchase a number of items:
   a. Batteries—$2.78 per set
   b. Flash bulbs—$1.70 per box
   c. Film—$1.96 per roll
   d. Slide viewer—$9.70

   How many choices does she have for spending her $10? (*Have students list all the possible combinations of items that will total $10 or less.*)

   If she spent her money on a set of batteries and film, how many rolls of film could she buy? (*Three.*) What would be her opportunity cost? (*Five boxes of flash bulbs or one slide viewer.*)

   If she bought a slide viewer, what would be her opportunity cost? (*Whatever combination of batteries, flash bulbs, and film totaling $10 or less she would have bought if she had not purchased the slide viewer.*) What would you choose? Why? What would be your opportunity cost? (*Encourage students to make a particular choice only after the opportunity cost of that choice has been considered. Make no attempt to force all students to agree on the same choices. Encourage students to give specific reasons for their choices, and to indicate why their choices differ.*)

   Now ask students to do a similar exercise with purchases they personally would like to make with $10.

4. **Working with Local Issues**

   Select a local issue where there are conflicting alternatives for using limited resources. Have the students identify the alternatives and list them. Then have them identify the opportunity cost of choosing any single alternative. For example, should tax funds be used for increasing police

IS THAT WHY YOU'RE NAMING IT OPPORTUNITY COST: BERMUDA TRIP INSTEAD OF MARY ANN OR THE SEA DOG?
YES, I FIGURED THIS WAY I'D BE REMINDED OF WHAT I GAVE UP TO GET THE BOAT.
OPPORTUNITY COST: BERMUDA TRIP

protection or for establishing a day-care center? Should a given piece of land be used for a parking lot or a playground? Should the community vote to establish a leash law? (*The opportunity cost of passing the law might include the loss of time to dog owners who have to exercise their dogs and less exercise for the dogs. The opportunity cost of not passing the law might include possible harm to the dogs, cost to homeowners when dogs dig in their yards, overturned garbage cans, frightened children, and people with dog bites.*)

LESSON 2

Malcolm Decides

This lesson is about personal decision-making. The program introduces a five-step process of decision-making that can be used to make all kinds of decisions. The steps are: 1) Define the problem, 2) List alternatives, 3) State criteria, 4) Evaluate alternatives, and 5) Make a decision.

Lesson 1 helped students understand that choices are inevitable because resources are limited and that any choice involves an opportunity cost. This lesson provides students with a systematic process for making personal choices. Lesson 3 will apply the same process to making social rather than personal decisions. This five-step process can also be used for making personal and social decisions in the situations presented in subsequent lessons.

Key terms in this lesson are alternatives and criteria. Alternatives are different options one has. Criteria are the reasons we use in deciding that a certain alternative is best for us in a particular situation. The specific alternatives and criteria used in the program are identified in the sample decision-making grids below. The program shows that sometimes the failure to meet one criterion will eliminate an alternative from further consideration. It also shows that sometimes no alternative meets all of the criteria, and we have to decide which criteria are most important. Sometimes each of our alternatives meets all of our criteria. Then we must refine our criteria, add other criteria, or decide which of our criteria are most important.

BEFORE THE PROGRAM

Tell your students that this program is about a boy who has to make several decisions. Ask them to look for the five steps he uses every time he makes a decision.

PROGRAM SUMMARY

When Malcolm receives a $15 gift certificate as newspaper carrier of the month, he has to decide how to use it. Several items, or alternatives, catch his eye: hockey game, airplane, bow and arrow, soccer ball, radio. His problem is that he can choose only one.

He evaluates his alternatives by using criteria (questions) such as: Does it cost less than $15? Will it last? Will my parents let me have it? Are there any extra costs? Can it be used all the time?

Special visuals outline the five-step process Malcolm uses in deciding on the radio.

Later Malcolm earns $25. He then has a different problem, but he uses the same decision-making process. How should he allocate the money when considering a gift for his mother, a new bicycle tire, and adding to his savings account? His alternatives and criteria for evaluating them are shown in the sample decision-making grid below.

The viewer is asked, "What would you decide, and why?"

AFTER THE PROGRAM

1. What is Malcolm's problem? (*He would like to buy a $10 purse, a $15 tire, and save $25 for his record player, but he doesn't have enough money to do all of these things. He must decide how to best use his $25.*)

SAMPLE DECISION-MAKING GRIDS

ALTERNATIVES	CRITERIA			
	Buy Gift	Fix Bike	Save for Record Player	Other?
$10 purse $10 tire $ 5 savings	++	+	+	
$ 5 purse $15 tire $ 5 savings	+	++	+	
$ 5 purse $10 tire $10 savings	+	+	++	
$10 purse $15 tire 0 savings	++	++	—	
Other? e.g. 0 purse 0 tire $25 savings				

If the above grid for the last part of the program proves to be too difficult, review the grid below for the first part of the program, where only one alternative meets all of the criteria. Or you may wish to start your post-program activities with this simpler example to build up your students' confidence in using a decision-making grid before answering the questions raised in the last part of the program.

ALTERNATIVES	CRITERIA				
	Less Than $15	Lasting	Adult OK	No Additional Costs	Full-Time Use
Airplane	+	—	+	+	+
Bow & Arrow	+	+	—	+	—
Hockey Game	+	+	+	—	+
Soccer Ball	+	+	+	+	—
Radio	+	+	+	+	+

2. What are Malcolm's alternatives? (*As students state the alternative ways of allocating $25 as shown in the grid, write them on the board in a vertical list. The class may come up with others.*)
3. What criteria or goals could Malcolm use in considering his alternatives? (*As students name criteria—buy gift, fix bike, save for record player, etc.—write them on a horizontal line across the top of the board, and complete the decision-making grid.*)
4. Evaluate each alternative according to the criteria. (*Place a plus or minus in the appropriate boxes of the grid as the class decides whether or not each criterion is being met. Point out that a single plus or minus may not express the strength of the choices or the preference of one choice over another. As illustrated, multiple pluses or minuses may be used. Combinations of pluses and minuses other than the ones illustrated are possible.*)
5. Make your decision. What should Malcolm do? (*Encourage students to base their decision on the evaluation in Step 4, but don't force any single conclusion. It is seldom possible to decide what to do simply by adding the pluses and subtracting the minuses on a decision grid because our criteria involve different types of values and because most values cannot be measured in any exact sense. Students should be encouraged to explain their decisions in terms of why they think one of the criteria is more or less important than the others. Don't be surprised if the discussion turns to probabilities, e.g., "Maybe the tire won't break this month." "Maybe the record player will go on sale." These are fine ideas. Maybe these other things will happen. But can we plan on them happening?*)
6. If Malcolm decided to buy the $10 purse and the $15 tire, what would be his opportunity cost? (*He would not be able to save anything.*)
7. If Malcolm decided to save all of his $25, what would be his opportunity cost? (*He would not be able to get his mother a gift and a new tire for his bike.*)
8. If Malcolm decided to buy the $10 purse, and the $10 tire, and save $5, what would be his opportunity cost? (*He would not be able to get as good a tire as he would like or save as much as he would like.*)
9. If Malcolm decided to buy the $5 purse, the $15 tire, and save $5 what would be his opportunity cost of his decision? (*He would not be able to buy his mother as nice a gift as he would like and save as much as he would like.*)
10. If Malcolm had not discovered the radio in the first part of the program and had decided to use his gift certificate for the soccer ball, what would have been his opportunity cost? (*The airplane. NOTE: It is important to emphasize that*

the opportunity cost of one choice is the loss of the next best alternative rather than the sum of all the alternatives.)

OTHER ACTIVITIES

1. **Wearing Malcolm's Shoes**

   Ask the class to imagine that, like Malcolm, each of them has received a gift certificate. It totals $20 and each student must decide how to spend it. Ask them to apply the decision-making skills learned from the program and share their decisions with the class. Have students cut out pictures of items they would purchase and prepare a visual display to accompany their oral presentations. The display should include the following:
   —alternative items considered for purchase.
   —criteria used in evaluating alternatives.
   —item(s) purchased.
   —opportunity cost of the final decision.

2. **Analyzing the Situation**

   Divide the class into groups. Distribute one of the situation cards suggested below to each group and ask the members of the group to analyze the situation using the decision-making model. After all groups have reached a decision, have a representative from each read the group's situation card, state the group's decision, and explain how and why the decision was reached. (*These situations can easily be translated into decision-making grids. They are suggestions only, and you may want to develop other situations.*)

   Suggested Situation:
   A friend from school has invited you to go swimming with his family. Your own family has planned a bicycling trip. You are trying to decide what to do when another friend calls about your scout troop's car wash. You signed up to work next Saturday. He wants to know if you would work this Saturday. *Problem:* How are you going to spend your Saturday? *Alternatives:* Swimming, bicycling, car wash. *Possible criteria:* Friendship, family obligation, social obligation.

   Suggested Situation:
   As you walk down the street carrying your softball and glove, several friends join you. All of you wish to spend the day together. One friend wants to build a fort for the whole gang to use throughout the summer. Another friend suggests going swimming. The others agree. You had hoped to play softball and say so. The others agree this would be fun, too. *Problem:* How will you and your friends spend the day? *Alternatives:* Build a fort, go swimming, play softball. *Possible criteria:* Individual pleasure, group pleasure, immediate pleasure, long-term pleasure.

   Suggested Situation:
   You can't decide what to wear the first day of school. Your parents have suggested a skirt. You would like to please them, but would also like to wear a new pants outfit you got for your birthday. You know that your friends will be wearing blue jeans. *Problem:* What will you wear? *Alternatives:* Skirt, pants outfit, blue jeans. *Possible criteria:* Please parents, personal satisfaction, be like your friends.

3. **Making Other Decisions**

   - *Personal Experiences*

     Have each student write a *situation card* based on a personal experience during which he or she had to make a decision. Each card should state the problem, list the alternatives, and state the criteria.

     Each student should also write a *decision card* that explains the decision made and the process he or she used to arrive at this decision.

     Distribute the *situation cards* to different groups (making sure not to give a card to a group that includes the person who wrote it). Each group will make a decision, using the five-step process. Its decision and an explanation of how and why that decision was reached will be presented to the class.

     The corresponding *decision card* is then presented to the class, and is compared to the group's presentation.

   - *Looking Backwards*

     Have the students summarize a personal experience in which they had to make a decision. Using this experience, have them reconsider their decision using the five-step decision-making process and a decision-making grid. Once a decision has been made, have each student answer these questions: When you used the five-step decision-making process, did you reach a decision different from your original one?

     If your decision was different, explain why, and indicate which of the two decisions you would choose now.

     If your decision was the same as the original one, explain how the process used to reach it was the same in the two instances.

We Decide

This lesson is about social decision-making. It applies the five-step process introduced in Lesson 2 to a social decision. A decision-making grid is presented in both the live action and the special visual segments of the program to show how alternative ways of assigning limited bike rack spaces can be analyzed in terms of various criteria. The terms alternatives and criteria may need review and emphasis.

One of the most important ways in which social decision-making differs from personal decision-making is that when many persons are involved they may differ in the values they attach to different criteria. The problem of resolving conflicting values is more acute in social decision-making than in personal decision-making. Lesson 4 will deal with the problem of conflicting values in more detail, but this is a good time to introduce students to the idea that our criteria reflect our values—what we think is important in general. Values may be thought of as deep-seated feelings that guide a person's actions in a general way. They often are the origin of more specific criteria used in particular choice situations.

BEFORE THE PROGRAM

Tell your students that in this program a school class applies a five-step decision-making process to a group decision about the assignment of bike rack spaces. Ask them to notice the different suggestions for assigning the bike rack spaces and the criteria that the class uses to evaluate each.

PROGRAM SUMMARY

The first day back at school, Donna and her friends realize that there are not enough bike racks for everyone who brings a bike and decide to find a solution to this problem.

At first, they think of different ways to raise money to purchase more bike racks, but school policy does not permit this. The students then identify several alternative ways of assigning the limited number of spaces. They could: take turns using the spaces; allocate by drawing; assign to those using them the longest; or do nothing and have a first-come, first-served system; or assign them to those who live furthest from school.

The class discusses and evaluates the different alternatives according to the criteria of freedom, equal chance, and certainty (labeled "be sure").

The special visuals review all five steps of the decision-making process and use a decision-making grid to evaluate each alternative in terms of the criteria. At the end of the program, viewers are asked to vote for the alternative they think best.

SAMPLE DECISION-MAKING GRID

ALTERNATIVES	CRITERIA			OTHERS?		
	Freedom	Equal Chance	Be Sure	e.g.: Safety	Growth	Efficiency
Take Turns	—	+	+			
Drawing	—	+	+			
Longest Use	—	—	+			
Do nothing	+	+	—			
Furthest from school	—	—	+			
Others?						

AFTER THE PROGRAM

1. What was the problem this class faced? (*There were not enough racks for all the bicycles. The class couldn't get any more, and so they had to decide how to assign the existing spaces.*)

2. What alternatives did the class identify? (*Draw a decision-making grid on the board. See sample.*) Could there be other alternatives? (*Encourage responses, and add them to the grid also.*)
3. What criteria did the class think were important in judging these alternatives? (*Add these to grid.*) Do you agree these are important? Why? Are there any others you think are important? (*Encourage responses, and add them to the grid also.*)
4. How did the class in the program evaluate these alternatives in terms of these criteria? (*Fill in grid.*) Would you evaluate them in the same way? (*Encourage response and evaluation of any new alternatives or new criteria suggested by members of your class.*)
5. Why might people evaluate these alternatives differently? (*Different things are important to different people, depending on their values.*)
6. Are all of the minuses and pluses of equal importance? (*Not necessarily.*) Are some criteria more important to you than others? If so, which ones? Why? (*Encourage discussion to clarify the differences in values in your class.*)
7. What should the class do? (*Have students vote and tally the results.*)
8. Are any dissatisfied with the result? Why? (*A group decision differs from a personal decision in that it does not always reflect the values of each member of the group.*)
9. How can conflicting values be resolved? Is a majority decision always best?

OTHER ACTIVITIES

1. **Playing the Allocation Game**

   Bring to class a bag of jelly beans that has one jelly bean for each student and explain that you plan to give them away. Since one jelly bean is not likely to be enough to satisfy any student's desire for candy, you need suggestions on how to allocate the candy. Write the responses in a vertical list on the board. (*Possible suggestions: lottery, divide and share, give to the best students, give to the hungriest students, auction to highest bidder.*)

   For each alternative ask: What goals will be achieved by this method? (*Possible answers: equal chance, equal result, reward for academic performance.*) Write these horizontally on the board to form a decision-making grid. Discuss the advantages and disadvantages of each method. As a class, fill in the decision-making grid. Ask the students by a show of hands to vote for the method they think should be used. (*A student may vote for the plan that would give him or her the best chance.*) Use the method that receives the most votes to distribute the jelly beans, and then discuss whether this was the "fairest" method. (*Try to distinguish values which consider others, values which consider oneself, and values which consider principles such as fairness, etc. Do individuals think that the "fairest" method is the one which favors them, regardless of what this method is?*)

2. **Making Allocation Decisions**

   Ask students if they know of any resource in their community that is limited—not enough of it available for everyone who wants to use it. Discuss how the community decides how this resource is allocated. (*An example might be parking spaces at the community center or in the downtown business area. Everyone wants to park close, but there are not enough spaces.*)

   Some of the ways in which the parking spaces might be allocated or distributed are to impose a 30-minute time limit so that more people will have a chance to park; reserve spaces for certain classes of people such as the handicapped or persons appearing in court; allow unlimited parking on a first-come, first-served basis; raise the price of parking until only those willing to pay the higher price will park there.

3. **Finishing the Story**

   Ask students to complete the story started below. The ending should discuss various ways of allocating the limited resources (playground balls) and explain the advantages and disadvantages of each way. The story should close by explaining what Ms. Moore's class finally decided to do and why. Have students share their stories with the class.

   > On the first day of school, Ms. Moore explains that she has only two playground balls for the class to use during recess. Since most of the students will want to use them, and not everyone will want to play the same games, she asks the class for suggestions on how to distribute the balls each day. The students have many ideas and suggest . . .

LESSON 4

Give and Take

This lesson is about trade-offs. It examines decisions involving conflicting objectives and indicates that some decisions do not have to involve an all-or-nothing choice. The important idea of trade-offs is introduced and defined as giving up some (not all) of one thing to get some (not all) of another. Trade-offs can involve more than two things, and many combinations are possible.

Trade-offs can involve specific things such as using land for a go-cart track vs. using land for growing crops, or broad social goals such as freedom vs. security. The first part of this lesson deals with trade-offs between specific things. The last part deals with trade-offs among the broader goals of health care, road repairs, and police protection. These trade-offs may involve a deferment of goal satisfaction rather than a complete sacrifice. It is important to emphasize that different trade-offs are possible, and that making trade-offs is not necessarily the same as sharing, dividing equally, or having something for everyone. Emphasize: What is given up? What is gained? This lesson can be used to review the content of previous lessons that explained opportunity cost and how to evaluate alternatives with criteria.

BEFORE THE PROGRAM

Tell your students that this program is about "trade-offs"—giving up some of one thing to get some of another. Ask them to look for the different trade-offs made by different people in the program. Why do they make them? Why are trade-offs often better than all-or-nothing decisions?

PROGRAM SUMMARY

Freddie and James try to persuade their father to give up watching a ball game on television to make two trips to pick up lumber. A trade-off is made—their father gives up part of the game to make one trip for lumber.

Later Freddie and James work out other trade-offs involving how to use the lumber and how to use the land on which they have built a go-cart track.

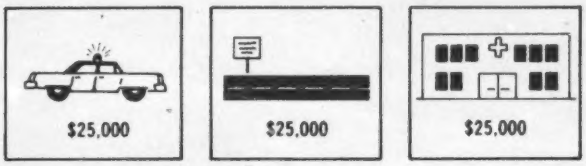
The special visuals review these trade-offs, and the program closes with a city council meeting where the citizens are trying to decide how to allocate $100,000 in tax revenues among more police units, road repairs, and expanding the schedule of the health center.

AFTER THE PROGRAM

1. If you decide to buy the police cars and hire additional policemen:
   - What goal do you consider most important? (*Security.*)
   - What goals would you be forced to sacrifice? (*Safety of travel, more health care.*)
   - What would be the opportunity cost of using all $100,000 to buy police cars and hire policemen? (*Loss of road repair and/or expanding the schedule of the health center.*)
   - What trade-offs would you be willing to consider? (*Encourage students to examine specific examples: give up one police "unit" to get one unit of health care; give up one police unit to get one unit of road repair; give up two police units to get one unit of health care and one unit of road repair, etc.*)
2. If you decide on road repair:
   - What goal is most important to you? (*Safety of travel.*)
   - What goals would you be forced to sacrifice? (*Security, and more health care.*)

- What would be the opportunity cost of using all $100,000 to repair roads? (*Loss of police units and/or expanding the schedule of the health center.*)
- What trade-offs would you be willing to consider: (*Encourage students to examine specific examples: give up one unit of road repair to get one unit of police protection; give up one unit of road repair to get one unit of health care; give up two units of road repair to get one police unit and one unit of health care.*)

3. If you choose to expand the schedule of the health center:
   - What goal do you consider most important? (*More health care.*)
   - What goals would you be forced to sacrifice? (*Security, safety of travel.*)
   - What would be the opportunity cost of using all $100,000 for health care services? (*Loss of more police units and/or road repairs.*)
   - What trade-offs would you be willing to consider? (*Encourage students to examine specific examples: give up one unit of health care to get one police unit; give up one unit of health care to get one unit of road repair; give up two units of health care to get one police unit and one unit of road repair.*)
4. Divide the class into groups and have each prepare a recommendation for allocating the $100,000. Select several students to act as city council and have each group present its recommendations to the council, stating what the opportunity cost of that decision would be and whether it would be a good trade-off. The council will recommend a final solution. A board similar to the one in the program could be made from felt or construction paper and used by students as they make their presentations. There should be four of each of the pieces below.



OTHER ACTIVITIES

1. **Making Trade-offs**

   Use the following questions to review with your students the alternatives and criteria or goals Malcolm used when deciding how to allocate his $25. To refresh the students' memories, place the decision-making grid from Lesson 2 on the board.

   For each of Malcolm's alternatives (for example: $10 purse, $10 tire, $5 savings), use the following line of questioning:

   If Malcolm chose the $10 purse, $10 tire, and $5 savings:

   What goal did he value most? (*Buy gift.*)

   What goal or goals did he sacrifice or partially sacrifice? (*Savings, fix bike.*)

   What was the trade-off? (*Gave up some of savings, bought a lesser quality bicycle tire to buy a better purse for mother.*)

   What was the opportunity cost of this trade-off? (*Loss of savings and better tire.*)

2. **Finding Trade-offs in the News**

   Provide the class with newspaper articles that involve conflicting goals—goals that are desirable when considered in isolation, but are in conflict with each other. Examples: labor-management

HEY, IT LOOKS LIKE I'VE GOT NOTHING BUT GUMDROPS. NO CHOCOLATE.
WELL, I'VE GOT NOTHING BUT CHOCOLATE BARS, KISSES AND DROPS. I LIKE CHOCOLATE, BUT NOT THIS MUCH.
I'VE GOT NOTHING BUT APPLES AND ORANGES. SOME PEOPLE MUST THINK KIDS DON'T LIKE CANDY.
TRICK OR TREAT
TRICK OR TREAT

disputes, conflicts between industrial expansion and environmental protection, lower taxes versus improved school facilities.

Students should summarize the articles and do the following:

State the goals.
Explain why each of these individually is a desirable goal.
Explain why these desirable goals are in conflict with each other.
Summarize the resolution in terms of the trade-offs made.
If no resolution has been reached, propose one of your own involving a trade-off. Explain why you feel this is the most desirable solution.

Students should share their articles with other members of the class. The articles and worksheets then could be displayed on the bulletin board entitled "Trade-offs."

LESSON 5

Less and More

This lesson introduces the general concept of increasing productivity and the accompanying advantages and disadvantages. It defines productivity as the amount of output (or production) per unit of input.

It is important to emphasize that increasing productivity does not have to mean producing more. It can also mean producing the same output with less input and conserving resources. One result of increased productivity can be that some workers are forced to change jobs.

The next three lessons cover the advantages and disadvantages of ways of increasing productivity: specialization (Lesson 6); investing in capital goods (Lesson 7); and investing in human capital through education and training (Lesson 8).

BEFORE THE PROGRAM

Tell your students that this program is about productivity—the amount of output (or production) per unit of input. Help them understand the concept by asking such questions as: "How many pages can you read in a minute?" "How many cookies can you bake with two cups of flour?" "How many bushels of tomatoes can you raise in a 100 square foot garden?" Let students suggest ways to read more pages in a minute, or to raise the same amount of tomatoes in less space. Then ask them to watch for the different ways productivity is increased in the program and to see if they can tell what the advantages and disadvantages are.

PROGRAM SUMMARY

Ricky takes over the management of the family delicatessen when his father, Stanley, becomes ill. He

introduces several ways of increasing productivity that are reviewed in the special visuals.

While the increased productivity helps hold down prices, and raise wages and profits, one waitress is laid off, and the job security of Vinnie, the long-time cook, is threatened when David, the delivery boy, shows that he can work faster in the kitchen than Vinnie. The program ends with Ricky talking with Stanley about laying off Vinnie. Stanley notes that Vinnie has been with him a long time, wants to work, and is too old to find another job. Ricky agrees but points out that Vinnie is past retirement age, has a good pension, and if ways aren't found to increase productivity, deli prices may go up.

The program closes with Stanley still wondering what to do.

AFTER THE PROGRAM

1. Why did Ricky want to lay off Vinnie and hire David? (*David does more work than Vinnie in the same amount of time—more output with same input.*)
2. What would be the disadvantages of firing Vinnie? (*Vinnie—loss of job and income; Ricky and Stanley—probable loss of Vinnie's friendship and possible loss of other employees' friendship.*)
3. What would be the possible advantages? (*Increased productivity—more output with the same amount of input—which could lead to increased wages for employees, constant or lower prices for customers, more business for the deli and possibly greater profits.*)
4. Why did Stanley want to keep Vinnie? (*Vinnie's long service, his age, concern that he would neither find another job nor adjust to retirement.*)
5. Why does Ricky disagree? (*Vinnie is past retirement age; he would receive a good pension.*)
6. Why is Ricky so concerned about improving efficiency at the deli? (*Without increased productivity, the deli will have to raise prices to cover expenses. Raising prices will affect the amount of business at the deli.*)
7. What should Stanley do? (*Encourage students to apply the five-step decision-making process used in previous lessons. A sample decision-making grid is given below. Students may suggest other alternatives, such as keeping Vinnie on part-time to train David in his cooking techniques.*)

Alternatives	CRITERIA			
	Lower Prices for Customers	Loyalty to Employees	Increased Wages For Employees	Increased Profits
Keep Vinnie	—	+	—	—
Fire Vinnie	+	—	+	+

OTHER ACTIVITIES

1. **Analyzing Increased Productivity**

   Below are five situations involving increased productivity. For each situation answer the following questions:
   a. How was productivity increased?
   b. What resources were saved or used more efficiently?
   c. What were the advantages and disadvantages of increasing productivity?

   - When people went to the corner grocery store many years ago, the clerks tallied their bill by hand. Now the calculations are done faster and more accurately on a cash register. (*a. Improved technology, investment in capital equipment; b. The time of both the customers and the clerks; c. Advantages—speed, convenience, accuracy, and possibly lower prices since fewer clerks are needed for the same calculations; disadvantages—fewer clerks may be employed and so some people will be out of work if they cannot find jobs elsewhere.*)
   - When television sets first came on the market they were very expensive because all the wiring had to be done by hand. Now the wiring is done by machines that print circuit boards for the sets. (*a. Improved technology, investment in capital equipment; b. Workers' time; c. Advantages—faster assembly and lower cost which help lower TV prices; disadvantages—fewer assembly workers may be needed so some people may be out of work if they cannot find jobs elsewhere.*)
   - In the past, the school secretary typed multiple copies of a letter using carbon paper. If a mistake was made, each page had to be corrected separately and some of the copies were unclear. Now one letter is typed and any number of clear copies can be made on a copying machine. (*a. Improved technology, investment in capital equipment; b. Secretaries' time; c. Advantages—better copies and possibly lower taxes since fewer secretaries are needed to do the same amount of work; disadvantages—some secretaries may be unemployed if they cannot find jobs elsewhere; if carbon paper and copying machines are not made by the same companies, some workers will have to change jobs since less carbon paper and more copying machines are used now.*)
   - When automobiles were first produced, one or two men would assemble an entire car. This took a long time and only the very wealthy could buy cars. Cars today are produced on an assembly line with various workers responsible for only one specific phase of production. More cars are produced faster, and many more people can afford to buy cars. (*a. New production techniques, training of workers; b. Workers' time, materials; c. Advantages—cheaper*

cars; disadvantages—work on an assembly line may become boring due to repetition.)

- A major city had a housing shortage. If enough new housing were provided to correct this problem, all the city's open space would be utilized. Eventually, high rise apartment complexes were constructed; this solved the problem without taking away all the city's green areas. (*a. High rises provided more living space per unit of land. By building up rather than out, land was conserved; b. Land or open space; c. Advantages—more housing per unit of land; disadvantages—some people might feel cramped by apartment living, and it might cost more to build up than out.*)

2. **Explaining the Productivity Data**

   Place the following information on the board:

   One Person Working One Day Produced

	in 1781	in 1925
coal	½ ton	4 tons
nails	5 lbs.	500 lbs.
lumber	100 ft.	750 ft.
iron	500 lbs.	5000 lbs.
shoes	¼ pair	10 pairs

   Ask the class to speculate why the output per work day increased between 1781 and 1925. (*More efficient production methods were known in 1925. Workers had better machines and tools to work with and were better trained. Operations were more specialized, with workers developing special skills.*)

   Assign students one of the products to research; ask them to find out specifically what caused the increased productivity and report back to the class.

3. **Analyzing Reduced Work Hours**

   Place the following information on the board:

   Work Hours Required to Produce 100 Bushels of Wheat

Year	Work-Hours
1800	373
1940	47
1970	7

   - What generalization can be made about what happened to the number of work hours necessary to produce 100 bu. of wheat over the past 170 years? (*It has decreased greatly.*)
   - What might be some of the reasons for this? (*Investment in new and improved machinery, i.e., progression from use of hand tools to horse drawn reaper to steam to petroleum-powered equipment. Point out that the use of herbicides, pesticides, and fertilizers and increased knowledge of farming methods have also helped increase productivity.*)
   - How could the time saved now be used? (*Produce more wheat; produce other products; reduce the amount of time spent working.*)

4. Invite a labor union representative and a business person to visit the classroom (parents of students often serve well). Ask them to discuss how employers and employees work together to increase productivity and at the same time treat employees fairly.

LESSON 6

Working Together

This lesson examines specialization and the division of labor as one way of increasing productivity. With each person specializing in one part of a whole job, output per unit of input can be increased. The increased productivity can be used to increase output and income or it can be used to free people to do other things. But specialization has disadvantages as well as advantages.

BEFORE THE PROGRAM

Tell your students that this program is about young people increasing their productivity by specializing, with each doing one part of a whole job. Ask them to watch for both the advantages and the disadvantages of specializing and working together.

PROGRAM SUMMARY

Maury, Eddie, and Diane find that they can wash their fathers' cars faster if they work together and each specializes by doing one part of the whole job. They decide to use the time saved to wash more cars and earn more money rather than use it for leisure activities. But as their specialized operation expands, they find that some of the jobs are not as desirable as others, that it takes a large number of customers to keep all of the specialists busy, and that if one of the specialists doesn't show up the entire operation breaks down.

The special visuals review the advantages and the disadvantages of specialization, and the program ends with a group of young people trying to decide whether they should introduce specialization and division of labor to the operation of a concession stand where a large number of customers want to be served quickly.

AFTER THE PROGRAM

1. Why did the young people want to set up a specialized assembly line? (*Serve more customers faster.*)
2. How would this increase productivity? (*More output with the same input.*)
3. How would the increased productivity benefit the operators of the concession stand? (*More satisfied customers and more money for the band.*)
4. How would the increased productivity benefit the customers of the concession stand? (*Faster service, less chance of missing part of the game.*)
5. What would be some of the disadvantages of specialization? (*No one wanted to work only in the kitchen. If one of the specialists didn't show up the assembly line would not work.*)
6. What should the young people do? (*Encourage students to systematically consider the advantages and disadvantages of specialization. They might suggest ways to overcome some of the disadvantages, such as taking turns in the kitchen. You might want to employ a decision-making grid like the one illustrated on page 19. If you do, your class might suggest alternatives and criteria other than the ones listed. Encourage them by in-*

cluding their suggestions in the grid. Students might also be reminded that criteria may differ in importance to different people. They can discus which criteria are more important than others.)

	CRITERIA					
Alternatives	Everyone see Friends	Improved Service	Boredom	More Money for Band	Self Reliance	Cooperation
Specialize	—	+	—	+	—	+
Work Independently	+	—	+	—	+	—

7. Discuss the advantages and disadvantages of the examples of specialization seen in the program. List these on the board. (*Advantages: Saves time that can be used for more leisure or to increase output or income; enables one to develop special skills. Disadvantages: Causes boredom through repetition in some tasks; confines some persons to undesirable tasks; requires cooperation of others, creating interdependence; requires a larger market to keep all specialists employed.*)

OTHER ACTIVITIES

1. **Creating an Assembly Line**

   Create your own specialized assembly line demonstration in the classroom. Set up two teams. One team forms an assembly line and divides the labor; the other does not. On the nonspecialized team each student produces two complete greeting cards. On the other team, members specialize in one task of the production process. (Cut paper, fold paper, draw picture, write Happy Birthday.) As each team finishes the production of a specified number of greeting cards, record the time on the board.

   Lead a discussion on the advantages and disadvantages of specialization. It should focus on the advantages of specialization in terms of increased output, saved time, and improved skills; and the disadvantages of repetition, boredom, and interdependence. If the specialists do not win, and they sometimes do not, stress the importance of cooperation and coordination. Ask students to speculate on what the results would have been if each specialist had been trained or experienced in his or her task. Ask the following:

   a. Did some people have harder jobs than others? (*Opinions may differ.*)

   b. Is there a more efficient way of increasing the number of cards that could have been produced? (*Encourage suggestions.*)

   c. Did anyone get behind? What could be done about this? (*Eliminate bottlenecks by special training or assigning more specialists to some tasks.*)

   d. What are some other factors that hindered or could have hindered productivity? (*Boredom, lack of experience, lack of cooperation, lack of talent.*)

   e. Is the quality of the greeting cards sufficiently high? (*Opinions may differ. Specialists may produce better work if one specialist serves as "inspector in charge of quality control."*)

   f. Why might a manufacturing company use an assembly line operation similar to the one used to produce greeting cards? (*Produce more output with the same input, or the same output with less input.*)

2. **Thinking About Self-sufficiency**

   Ask the students to list some of the items in their homes that they did not produce but use daily. Discuss what their lives would be like if their families had to produce everything for themselves. What would they do without? How would this affect their standard of living? What has made it possible for families today to have all of the products on their lists? (*Self-sufficiency would lead to fewer goods and a lower standard of living for most families. By specializing at jobs they do well and trading with other specialists through the use of money* [*see Lesson 9*], *most families today have a higher standard of living than if they tried to be entirely self-sufficient.*)

LESSON 7

Does It Pay?

This lesson is about investing in capital goods as one way of increasing productivity. Capital goods are buildings, tools, machines, and other equipment used by workers in production.

Investing in capital goods can have advantages and disadvantages. New and improved capital goods can increase productivity and lead to greater output and income. But risks are involved, and investment requires the use of savings. If one's own savings are used, interest is lost and the savings are not available for other purposes. If other people's savings are borrowed, the loan must be repaid with interest.

BEFORE THE PROGRAM

Tell your students that this program is about increasing productivity by investing in buildings, tools and machines used in production—called "capital goods." Help them understand the term capital goods by mentioning several examples: a dentist's office and equipment; a carpenter's tools; a golf club when used by a professional golfer; the printing press at a newspaper. Give students a chance to suggest others. Ask them to watch for what Bobby and his father must consider before deciding to invest in capital goods.

PROGRAM SUMMARY

Bobby and his younger brother Oscar mow lawns with their father's hand mower. Bobby wants his father to buy a power mower so that he can mow more lawns, make more money, and buy the car he wants sooner. His father suggests that Bobby invest his own savings in a new mower.

The special visuals review what Bobby has to consider before investing in a new mower, introduces the term capital goods, and lists advantages and disadvantages of investing in capital goods.

In the last part of the program, Bobby's father, Jack, discusses with the family his thoughts about investing in a new frame alignment machine for his auto repair shop. The machine might create new business, but it would take most of the family's savings and a five-year loan from the bank to buy it. The program closes with Jack asking himself: Is it going to be worthwhile for us to give up so many things we want now and in the next five years for what we'll get later?

AFTER THE PROGRAM

Ask the students what Jack should do. Use the following questions:

1. What does Jack need to consider before he makes his decision. (*How much the machine will increase his business, loss of interest on his savings, loss of the opportunity to use his savings for other things, interest on the loan to be repaid, things the family must forego to repay the loan.*)
2. What are the advantages of investing in a frame alignment machine? (*Increased productivity; the possibility of new business and increased income, which can be used to hire new people to handle the increased business, to train employees to use the new machine, to increase wages of workers, and to increase Jack's profit by more than enough to repay the loan and interest.*)
3. What are the disadvantages of investing in the machine? (*Risk—will the investment create more business and more income? Changes some workers may have to make—sometimes workers are displaced by machines, losing their jobs;*

sometimes they must retrain. Investing requires use of savings and/or a loan. If savings are used, interest on savings and opportunity to use the savings for other purposes are lost. If a loan is used, principal and interest must be repaid.)

4. What do you think Jack should do? Explain. (*You might help the students organize the information by using a decision-making grid similar to the one below. Remind students that not all criteria may be of equal importance to people.*)

	CRITERIA				
Alternatives	Chance for more Income	Use of Savings	Interest Cost	Creation of New Jobs	Adjustment Workers May Have to Make
Invest in New Machine	+	–	–	+	–
Don't Invest In New Machine	–	+	+	–	+

OTHER ACTIVITIES

1. **Discussing Investments That Failed**

   Not all investments pay off. Discuss with your students businesses in your community or elsewhere that have failed.

2. **Simulating an Investment Decision**

   Have your class pretend that a student is hired as needed at $5 per hour by an accounting firm to solve multiplication problems. Write a number of two- or three-digit multiplication problems on the board and ask each member of the class to solve each problem. Time the students and record the average time it takes a student to solve one problem. Give one or more students calculating machines and have them work the same problems. Record the average time it takes one student with a calculator to solve one problem.

   - If the firm expects to solve 1,000 problems in one year, how much will it cost them if they pay a student to solve them by hand? (*The number of problems—1,000—times the time in hours it takes to do one problem by hand, times the $5 the student earns per hour.*)
   - How much will it cost the firm to solve 1,000 problems if the student has a calculator? (*The number of problems—1,000—times the time in hours it takes to do one problem with a calculator, times the $5 the student earns per hour.*)
   - Would the firm regain its investment in one year if it spent $10 to buy a calculator for the student to use? (*If the $10 had been invested at 6%, the difference between the cost of the 1,000 problems without the calculator and the cost of the 1,000 problems with the calculator would have to be at least $10.60, for that is the amount required to cover the cost of the machine and the lost interest.*)
   - How would the firm's investing in the calculator affect the student? (*The firm would need him for fewer hours and his income would drop. If several students had been working for the firm some might have to change jobs or be without work. It is possible, however, that with faster calculations and the possible lower prices to customers that might result, the firm might be able to attract more business to keep the students working.*)

LESSON 8

Learning and Earning

This lesson examines investment in human capital—the education and training of workers—as one way of increasing productivity.

As with specialization and investment in capital goods, investment in human capital has advantages and disadvantages. People who invest in more education and training often get better jobs, increase their income, and find greater satisfaction in their work. But risks do exist since investment in education and training do not guarantee any of these advantages, and such investments often involve using savings and losing income during the training period.

BEFORE THE PROGRAM

Tell your students that this program is about two girls named Judy and Andrea who try to increase their productivity by taking a training course in hope of obtaining a summer job. Ask them to observe whether their investment pays off.

PROGRAM SUMMARY

Hoping to obtain a desirable summer job, Judy and Andrea enroll in a training course for junior playground supervisors. This requires a $20 registration fee and attending eight Saturday classes. The course costs each girl $100—the registration fee plus the $80 they could be making at their regular Saturday jobs during the eight-week course. The course does not guarantee either girl a job, since only 10 positions are open. When they are filled, Judy is hired but Andrea is not.

The special visuals outline the advantages and disadvantages of investment in human capital, and the program closes with Judy's mother, Myrna, trying to decide whether she should quit her secretarial job to take a one year course in drafting. This might help her get a better job. The family encourages her to take the course, but Myrna points out that such a commitment would mean more assistance from the family with household tasks and other family sacrifices due to her loss of income. The program ends with Judy asking: "So what is it, Mom..., Yes or No?"

AFTER THE PROGRAM

1. What should Judy's mother consider before making her decision? (*Possibility of a better job after training, her own satisfaction, sacrifices her family must make, her opportunity costs, i.e., loss of income and free time and the things she could do with the time and income.*)
2. What are the advantages of taking the drafting course? (*Increased productivity, the possibility of a better job, more income, and greater job satisfaction.*)
3. What are the disadvantages? (*Risk—will a drafting job be available when the course is completed? Cost of her financial investment in the course and the other things this money could be used for, loss of time spent commuting, and family sacrifices due to loss of her income and time at home.*)
4. What do you think Myrna should do? (*To assist the students in organizing their thoughts, encourage them to follow the five-step decision-making process. A sample decision-making grid might look like the one below. Remind students that not all criteria may be of equal importance to people.*)

	CRITERIA				
Alternatives	Chance for Better Job	Income Lost During Course	Increased Satisfaction	Time Lost Commuting	Family Sacrifice
Invest in Course	+	—	+	—	—
Don't Invest in Course	—	+	—	+	+

OTHER ACTIVITIES

1. **Deciding About Investment in Human Capital**

   Ask the class to pretend that they are employed by a small clothing manufacturer. Explain that the owner has invested in new machinery and sends each employee to a one-week training class to learn how to operate the new equipment.

   - What might your employer consider in deciding whether to invest in your training? (*With this training your productivity will increase: more output with the same input.*)
   - What relationship exists between investment in capital goods and human capital? (*With the company's investment in new capital goods, it also had to invest in the training of the human capital to realize increased productivity.*)
   - Why might such an investment be beneficial to you? (*You will be more productive. Productive workers are often rewarded with increased income and greater job satisfaction. New skills might be beneficial if you ever needed to change jobs.*)

2. **Learning the Value of Training**

   Before class make a boat or some other object such as a hat, out of newspaper. Distribute a sheet of newspaper to each student and tell each to make a boat just like yours. Give no instructions. After a few minutes discuss the following:

   - How did you feel while attempting to make your paper boat? (*Frustrated.*)
   - What would have made your task easier? (*Instructions and training.*)
   - How would this instruction and training have affected your productivity? The quality of your final product? (*Increased productivity and improved quality.*)

3. **Discussing the Advantages and Disadvantages of Investment in Human Capital**

   Ask the students for examples of someone they know who has invested in further training. (*Examples might be a high school graduate postponing a job to attend a technical college, beauty school, etc.; a neighbor going back to school after fifteen years of taking care of a family; a relative who is attending evening class to learn how to use new equipment or machines at work.*) What were the advantages of this training? The disadvantages? Did the investment pay off? Had any of these people needed to go back to school to keep their jobs? (*Some may have needed additional training due to a company's investment in new, sophisticated capital equipment.*)

4. **Analyzing the Job Market**

   Have your students study the classified section of the newspaper and circle every help wanted ad that requires training beyond that of a high school diploma. If the level of reading ability prohibits this, read a selection of these to the class. What inferences can you make concerning skills and training needed in today's job market? (*Today's labor market demands a highly skilled and well trained labor force.*)

LESSON 9

Why Money?

This lesson is about voluntary exchange and the convenience of money. People exchange things because both sides expect to benefit from the trade; but direct exchange without the use of money can be clumsy, time consuming, and inconvenient. Money increases the benefits of voluntary exchange because of its convenience and general acceptability.

Money takes two main forms: currency or cash (paper bills and coins), and checking accounts. The lesson explains why checking accounts can be used as money, and why credit cards are not money.

BEFORE THE PROGRAM

Tell your students that this program is about trading, also called "exchange," and about how money makes trading easier or more convenient. Ask them to watch for how people in the program expect to benefit when they trade and for two different things that can be used as money.

PROGRAM SUMMARY

After trading everything from Aunt Matilda's antique lamp to two large pumpkins, Christina finally gets the skateboard that she wants, only to find that suddenly she needs the lamp back. She then discovers that money provides a convenient and widely accepted way of trading.

The special visuals emphasize the convenience and general acceptability of money, and indicate that both checking accounts and currency can serve as money. The program ends with Mr. Simons, the owner of an antique shop, asking Christina, "Can you tell me now why money is generally best?"

AFTER THE PROGRAM

1. How would you answer Mr. Simons' question, "Why is money generally best?" (*Money is more convenient and is acceptable in exchange for most goods and services.*)
2. Why did Mr. Simons prefer cash over checks? (*Checks are harder to handle than cash. He has to be sure that the customer has a bank deposit to cover the amount of a check, and he must take checks to a bank to be cashed or deposited in his account.*)
3. Why did Mr. Simons not want to accept credit cards? (*A credit card is not money. He cannot endorse credit card slips over to others as he can a check; he cannot cash them whenever he wants—he can receive payment only once a month from the credit card company, and the credit card company charges him a fee.*)
4. Why do people trade? (*They expect to be better off after the trade than before.*)
5. Why does the use of money make trading easier? (*It is convenient and generally acceptable.*)
6. Why can checks be used as money? (*They are convenient and generally acceptable, and a bank must cash them at the time they are presented.*)
7. What other uses, besides making trade easier, do we have for money? (*Money serves as a store of value. Help the students see that money allows them to store the value of an errand done for pay so that the value earned can be spent three weeks later. Money also serves as a standard of value. Help students see the difficulty of comparing the values of two or more items such as a pair of shoes and a movie if the value of each could not be expressed in common units, i.e., money.*)
8. Ask students to relate experiences in which they have made a trade using direct exchange (sometimes called barter). Discuss the following:
   - *What did you trade and what did you receive in return?*
   - *Why did you make this trade?*
   - *Were there any problems in making this trade? Explain.*
   - *Would the use of money have made your trading easier? Explain how.*
9. Help students understand that money today consists of coins, paper bills, and checks by discussing the following:
   - What are the two main forms of money used today? (*One form is currency. It is sometimes called "cash" and consists of coins and bills. The other form is checks. Students may reply that the two forms are coins and bills. Help them understand that coins and bills are both currency and explain why checks are a second form of money.*)
   - Why are each of these needed? (*Coins for small purchases, usually less than $1, vending machine purchases, making change in larger transactions; paper bills for larger amounts when cash is the only form of money accepted; checks for sending money through mail, handling large sums, and record keeping.*)
   - Why is a check considered money? (*It is backed by a deposit in a bank. Persons receiving checks can endorse them over to others, receive cash for the amount of the check at a bank, or deposit the check in their own bank account.*)
   - Why are checks sometimes better than coins and currency? (*Safety—if stolen, checks are more difficult to use than cash. Convenience—no need to carry large amounts of bulky cash, easier to mail. Record keeping—cancelled checks serve as receipts.*)

OTHER ACTIVITIES

1. **Playing the Barter Game**

   Round I—Barter

   Supply each student with the items shown in the "has" column and explain that the object of the game is to make exchanges until each has the items listed for that player in the "wants" column. (You may wish to substitute other items for those suggested, in order to make the game more meaningful for your students.)

Player	Has	Wants
A	1 compass	3 pencils
B	3 pencils	1 ruler
C	1 ruler	1 scissors
D	1 scissors	1 compass

Discuss the following:

- What problems did you have trying to make a trade? (*Difficulty in finding someone who had what you wanted and who also wanted what you had.*)
- What might have made the process easier? (*The use of money.*)

Round 2—Money

Each player has 50¢ (play money or some kind of marker may be used) and is willing to sell the item in the "has" column for 50¢ and is willing to buy the item in the "wants" column for 50¢.

Player	Has	Wants
A	1 compass + 50¢	3 pencils
B	3 pencils + 50¢	1 ruler
C	1 ruler + 50¢	1 scissors
D	1 scissors + 50¢	1 compass

Discuss the following:

- In which round was it easier to make a trade? (*Round 2 should have been easier, since money is generally acceptable and does not require the coincidence of wants required by barter.*)
- How does the use of money facilitate the trading process? (*Convenience and general acceptability.*)

2. **Creating Stories About Money and Exchange**

Read the situations below to the students. Ask them to describe the problem created by direct exchange and explain how the use of money would have facilitated each exchange. After one or two of these, expand the activity into a creative writing lesson by asking the students to write their own stories.

- Loretta has a model airplane and wants a race car. Jeffrey has a race car. He is willing to trade, but doesn't want a model airplane. Ellen wants a model airplane, but doesn't have a race car.
- To be the magician in the neighborhood circus, Fritz needs a magic kit, for which he is willing to give up his catcher's mitt. Maury wants the mitt, but has no magic kit. By the time Fritz makes a trade, Eleanore, who had a magic kit, had been given the position of magician.
- Mr. Acker has an electric saw he wishes to exchange for a motorized bicycle. Mr. Mentor has a motorized bicycle he is willing to trade but thinks that Mr. Acker's saw is worth only half as much as his bike.

3. **Selecting Forms of Money**

For each of the following situations tell which form of money, currency (coins and bills) or checks, would be better to use and explain why.

- Buying an ice cream cone. (*Currency; convenience.*)
- Ordering goods from a mail-order house. (*Checks; safety, record keeping.*)
- Paying for new living room furniture delivered to your home. (*Checks; convenience, record keeping.*)
- Paying household bills such as rent, phone, electric. (*Checks; convenience, record keeping.*)
- Buying school lunch. (*Currency; convenience.*)
- Birthday gift of money for friend. (*Currency; convenience.*)
- Buying groceries. (*Currency, or checks if the store accepts them; convenience.*)

4. **Hearing the Story of a Check**

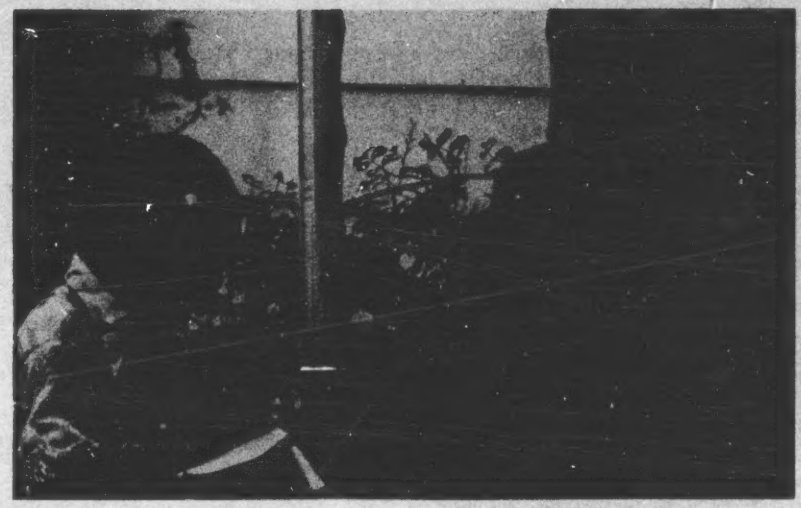
Arrange a class trip to a bank or invite a representative of a local bank to speak to the class on "What happens to checks after they are written?"

HIYA. WHATCHA GOT?
TWO APPLES.
I'LL TRADE YA TWO BASEBALL CARDS FOR ONE.
NOPE. DON'T NEED BASEBALL CARDS. I'LL TAKE A CANDY BAR.
GEE, I DON'T HAVE ONE. HOW ABOUT MY HAT?
NOPE.
GLOVE?
NOPE.
SOME MONEY?
SOLD FOR A QUARTER! I'M OFF TO THE CANDY STORE TO GET THAT CANDY BAR.

LESSON 10

To Buy or Not To Buy

This lesson is about market demand—the amounts people are willing to buy at various prices. If price is the only factor that changes, people will buy more at lower prices and less at higher prices. If other factors change—e.g., the amount of advertising, people's tastes, needs or income, or the price of other products—the market demand will change. If people are willing to buy more at each price the market demand is said to have increased; if people are willing to buy less at each price the market demand is said to have decreased.



The human behavior underlying market demand can be conveniently represented with graphs. Since the special visuals in the program make use of graphs, you may wish to use activities in which the students draw and interpret graphs.

What is a 'Market'?

While most students have had some experience with buying and selling, they may still have trouble understanding the somewhat abstract concept of a "market." A "market" is simply a set of arrangements that enables buyers and sellers to exchange goods and services. It does not have to have a single physical location. Some markets, such as the New York Stock Exchange or the Chicago Board of Trade, do have a physical location that can be seen or visited. Others, such as the market for school teachers or the market for new homes, are less tangible. Letters, telephone calls, personal relationships, and face-to-face discussions in various places enable these markets to function. As long as there are arrangements through which potential buyers and sellers can communicate about the exchange of goods and services, a market is said to exist. Beyond this, if one wants to talk precisely about the price or quantity in any particular market, it is necessary to specify a product, a geographic location, and a time period.

Most students should be able to relate to and understand the specific examples of markets in Lessons 10, 11, and 12: the market for home-delivered pastry in a typical town during a typical week, the market for hand-made trays in Mrs. Guthrie's gift shop during a particular period, and the market for soft drinks outside a city swimming pool on a hot summer day.

BEFORE THE PROGRAM

Tell your students that this program is about young people conducting a market survey to find out how many home-delivered danish pastries people are willing to buy at various prices. Ask them to watch for the things that determine how many pastries people are willing to buy. How do changes in the price of pastries influence the amount that people will buy? What besides the price might change the amount of pastries that people will buy?

PROGRAM SUMMARY

Sharon's Uncle Gus helps her and her classmates earn money for a trip to "Fantastic City" by letting them sell danish pastries door-to-door. The pastries cost the students 15¢ each. They take a market survey to determine how many they can sell at various prices. They learn that four students can sell five at 50¢ each, thirty at 40¢ each, and eighty at 30¢ each. They reason that if the number of people selling pastries increases from four to sixteen, the quantity demanded at 50¢ will be twenty, the quantity demanded at 40¢ will be one hundred and twenty, and the quantity demanded at 30¢ will be three hundred and twenty.

The first segment of the special visuals emphasizes that when only the price changes, people are willing

to buy less at higher prices and more at lower prices, and the data are plotted on a graph.

The students try to increase the market demand by advertising in a local paper. They find that after the advertisement appears people will buy five hundred pastries at a price of 30¢, and they estimate that people will buy four hundred at a price of 40¢.

The second segment of the special visuals reviews factors that cause the market demand to increase or decrease at each and every price—such as advertising, changes in people's taste, changes in people's income, and changes in the prices of other goods. The program ends with five scenes in which the viewers are asked to answer the questions "How would this change the demand for danish pastries? Would it increase or decrease?"

AFTER THE PROGRAM

1. Review the five situations in the last part of the program, and discuss how each would affect the market demand for danish pastries.
   - Mr. Grant's layoff. (*Decrease in demand for pastries because of a decrease in income.*)
   - Store raises the price of sweet rolls (a substitute for danish pastries). (*Increase in demand because a substitute product now costs more.*)
   - Brown family's increase in dental bills. (*Decrease in demand because of a diminished taste for sweets resulting from increased tooth decay or increased costs of dental care.*)
   - Bakery lowers price of cream puffs (a substitute for pastries). (*Decrease in demand because a substitute product now costs less.*)
   - Young woman gets unexpected house guests. (*Increase in demand because of a new situation.*)
2. Review the factors that result in a change in market demand. (*Changes in taste due to advertising or other factors, changes in income, changes in the prices of other goods.*)
3. If price is the only factor that changes, what happens to the number of danish pastries people are willing to buy as the price falls? (*The quantity demanded increases.*) Why? (*Lower prices enable a given income to stretch further and buy more; buyers tend to substitute items whose price has dropped for items whose price has remained constant. Point out that the market demand—the amounts people are willing to buy at various prices—has not changed, but that the quantity demanded has increased in response to the lower price.*)
4. If price is the only factor that changes, what happens to the number of danish pastries people are willing to buy as the price rises? (*The quantity demanded decreases.*) Why? (*Higher prices do not permit a given income to buy as much; buyers tend to substitute items whose prices have not changed for the more expensive item.*)
5. If the students run a $10 newspaper ad each week:
   a. How much would the students earn each week selling 500 pastries at 30¢ each? (*At 30¢ per pastry, their income would be 30¢ x 500 = $150; their cost would be $85—15¢ x 500 = $75 plus $10 for the ad; so they would earn $65 per week, $150 - $85.*)
   b. How much money would the students earn each week selling 400 pastries at 40¢ each? (*At 40¢ per pastry, their income would be 40¢ x 400 = $160; their cost would be $70—15¢ x 400 = $60 plus $10 for the ad; so they would earn $90 a week, $160 - $70.*)
   c. How many weeks would it take them to make $270 selling 400 danish pastries at 40¢ each? (*Three weeks.*)
   d. How many weeks would it take them to make $260 selling 500 danish pastries at 30¢ each? (*Four weeks.*)
6. How would market demand look on a graph with price on the vertical axis and the quantity demanded on the horizontal axis? (*The line representing demand would slope down to the right, indicating that people would buy more at lower prices and less at higher prices. See line D on the graph on page 28.*)
7. How would an increase in market demand appear on a graph? (*The line representing demand would shift to the right. See the shift D to D_1 on page 28.*)
8. How would a decrease in market demand appear on a graph? (*The line representing demand would shift to the left. See the shift D_1 to D on page 28.*)

OTHER ACTIVITIES

1. **Predicting the Changes in Demand**

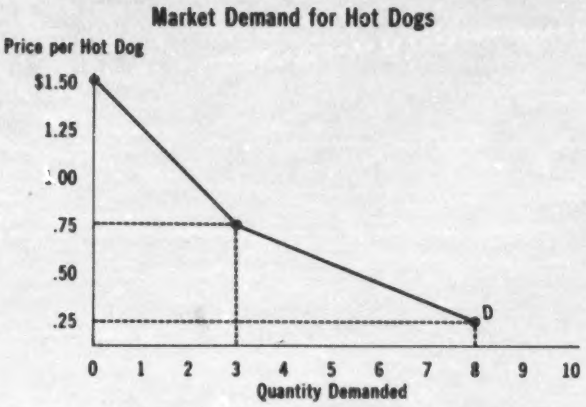
   Present the following questions to your class:

   Assume that the class sells soft drinks every Friday after school. How would the market demand for soft drinks change if:
   a. Parents ask their children not to buy soft drinks for health reasons. (*Decrease.*)
   b. Small pieces of gravel are found in the drinks. (*Decrease.*)
   c. Several students get an increase in their allowance. (*Increase.*)

   How would <u>your</u> demand for peanuts at the movie theater change if:
   a. Price of popcorn drops. (*Decrease.*)
   b. The theater offers a free drink with each bag of peanuts. (*Increase.*)
   c. You give up your paper route, which reduces your income? (*Decrease.*)

2. **Analyzing the Market Demand for Hot Dogs**

Place the following graph on the board, or give copies to the class. Note that each point on the graph represents both a price figure and a quantity figure.



a. How many hot dogs are demanded at 25¢? (*Eight.*), 75¢? (*Three.*), $1.50? (*None.*)
b. What happens to the quantity demanded as the price increases? (*It decreases.*)
c. What happens to the quantity demanded as the price decreases? (*It increases.*)
d. What would cause the demand for hot dogs—the amount people would buy at each price—to increase? (*Changes in taste, increase in income, increase in the price of similar food such as hamburgers.*) On a graph where would the new line representing increased demand be located in relation to the old demand line? (*To the right.*)
e. What would cause the demand for hot dogs to decrease? (*Changes in taste, decrease in income, decrease in price of similar food such as hamburgers.*) Where would the new line representing decreased demand be located in relation to the old demand line? (*To the left.*)

3. **Plotting Demand Graphs**

(This is the first in a series of related exercises in Lessons 10 through 13. These exercises are recommended for advanced students.)

a. Place the following table, showing the demand for yoyos on the board or distribute copies. Have your students complete the Total Quantity Demanded, column D, by adding the quantity demanded by each person at each price.

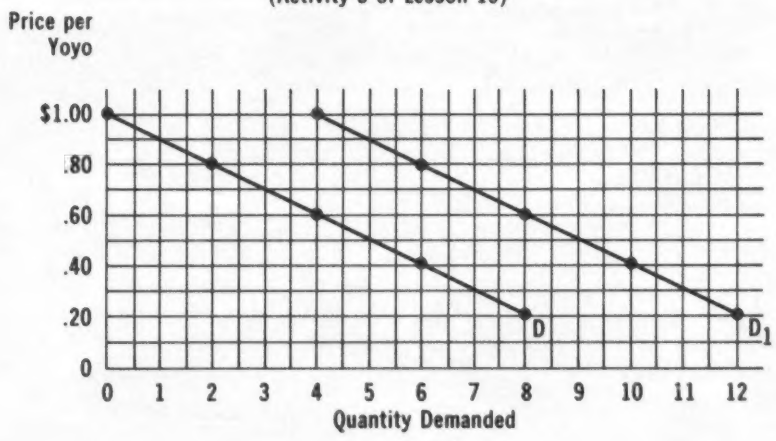
					D	D_1
Price per Yoyo	QUANTITY DEMANDED				Total Quantity Demanded	*New Quantity Demanded*
	Sally	Joe	Alicia	Arnold		
$1.00	0	0	0	0		
.80	0	0	1	1		
.60	0	1	1	2		
.40	0	1	2	3		
.20	0	2	2	4		

b. Distribute graph paper (see sample on page 46) and ask students to plot the total market demand for yoyos and label the line "D" (see completed example below).
c. Place the following new quantity demanded figures for yoyos on the board and have the students plot this new data on their graphs, connect the points and label the new line D_1 (see completed example below).

NEW QUANTITY DEMANDED FIGURES

Price per Yoyo	*Quantity Demanded*
$1.00	*4*
.80	*6*
.60	*8*
.40	*10*
.20	*12*

Market Demand for Yoyos
(Activity 3 of Lesson 10)



d. Discuss:

- Why does the demand line D slope down and to the right? (*People will buy more at lower prices than at higher prices.*)
- What happened to the demand graph when there was an increase in demand? (*The demand line shifted to the right—see D_1 on page 28.*)
- What might have caused this increase in demand? (*Increased income, change in tastes, increase in the price of substitutes for yoyos.*)

4. **Making a Market Survey**

   As an assignment for homework or extra credit, ask students to make a market survey of their classmates for a product of their choice and convert their data into a demand graph.

LESSON 11

To Sell or Not To Sell

This lesson is about market supply—the amounts that people are willing to sell at various prices. If price is the only factor that changes, people will sell more at higher prices and less at lower prices. If other factors change—e.g., the cost of materials or the opportunity cost of labor—the market supply will change. If people are willing to sell more at each price the market supply is said to have increased; if people are willing to sell less at each price the market supply is said to have decreased.

As with market demand in the preceding lesson, the human behavior underlying market supply can be conveniently represented with graphs. Since the special visuals in the program make use of graphs, you may wish to use activities in which students draw and interpret graphs.

BEFORE THE PROGRAM

Tell your students that this program is about a girl named Cathy who makes trays and how she decides how many to make for Mrs. Guthrie's gift shop. Ask them to watch for the things that determine how many trays Cathy is willing to sell—her market supply. They should concentrate on the price she receives for her trays and the cost of her materials, including the opportunity cost of her own time.

PROGRAM SUMMARY

Mrs. Guthrie is so impressed by the serving tray that Cathy made her mother that she wants Cathy to make some trays for her to sell in her gift shop. She offers to pay Cathy $9 per tray. After figuring out the cost of materials and the amount of money she could earn gardening for Mr. Troy, Cathy decides that she is not willing to supply any trays at a price of $9 per tray. Cathy does determine, however, that

she would be willing to supply one tray per week at a price of $11 per tray, and that she would be willing to supply two trays per week at a price of $14 per tray and three trays a week at $17 per tray.

The first segment of the special visuals reviews Cathy's market supply decisions in tables and graphs to emphasize that she will supply more trays at higher prices and fewer trays at lower prices.

When Mr. Troy offers Cathy more money for gardening, her opportunity cost for making trays goes up, and she reduces her supply.

The second segment of the special visuals reviews factors that cause market supply to increase or to decrease, and the program ends with Cathy's brother Charlie and his friend Joel deciding to switch from making birdhouses to making trays for Mrs. Guthrie's gift shop. The program ends with the lines: "The boys are going to make two trays a week at $12 a tray . . . what if the price goes up to $14 a tray? . . . or what if the price goes down to $10 a tray? How many should they make then?"

AFTER THE PROGRAM

1. If you were Joel or Charlie, what factors would you have to consider before deciding how many trays to supply at any given price? (*Cost of your materials and labor, and the opportunity cost of each. The opportunity cost is what you would be doing with the materials and self-employed labor if not making trays.*)
2. If the costs of these factors do not change, what will happen to the number of trays you will be willing to supply if the price of trays goes from $12 to $14? (*Increases.*) If the price of trays goes from $12 to $10? (*Decreases.*)
3. If the costs of any one of these factors goes up, what will happen to the number of trays you will be willing to supply at any given price? (*Decreases.*) If the cost of one of these factors goes down? (*Increases.*)
4. If Mrs. Guthrie offers to pay more for each tray, what happens to the number of trays Cathy is willing to supply? (*Increases.*) Why wasn't it profitable for Cathy to make any trays at $9? (*$9-$6 for materials = $3 for labor. Since it takes Cathy four hours to make a tray, she would earn 75¢/hour, less than the $1/hour she made gardening.*)
5. Why were Charlie and Joel willing to make two trays per week at $12 per tray when Cathy was only willing to make one. (*Because of their more extensive woodworking experience, it took the boys less time to make a tray than it took Cathy.*)
6. Why would Cathy be better off gardening for the Troys at $1.50 per hour if she receives less than $12 per tray from Mrs. Guthrie? (*At $1.50 per hour, four hours gardening = $6. If Cathy made trays for less than $12, she would make less than $1.50 an hour for the four hours spent making a tray after she subtracts the $6 cost of material from the price she received from Mrs. Guthrie. The opportunity cost of making trays increased because she could make more money gardening.*)
7. What would happen to the quantity of trays Cathy would be willing to supply at each and every price if:
   - She learns to make the trays in three hours instead of four hours? (*Increases.*)
   - The costs of her raw materials go up? (*Decreases.*)
   - She is offered a job at the supermarket for more money than she can earn making trays? (*Decreases.*)
8. How would market supply look on a graph with price on the vertical axis and quantity supplied on the horizontal axis? (*The line representing supply would slope up to the right, indicating that people would supply less at lower prices and more at higher prices. See line S on the graph on page 31.*)
9. How would an increase in market supply appear on a graph? (*The line representing supply would shift to the right. See the shift S to S_1 on page 31.*)
10. How would a decrease in market supply appear on a graph? (*The line representing supply would shift to the left. See the shift S_1 to S on page 31.*)

OTHER ACTIVITIES

1. **Meeting the Demand for "Fuzzy Creatures"**

   It takes you one hour to make a "Fuzzy Creature," the cost of materials is 50¢ per creature, and you can earn $1 per hour in a babysitting job that would use the same time but not permit you to make creatures.

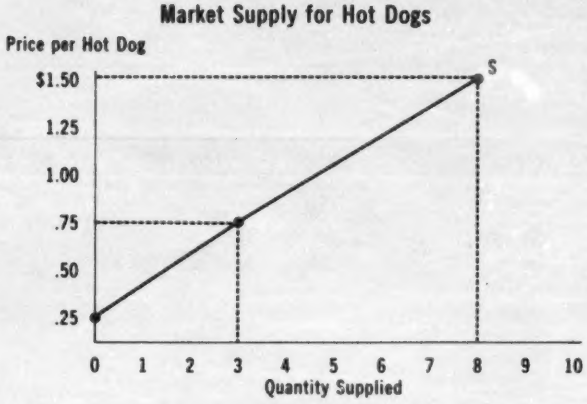
   a. What would be the lowest price at which you would be willing to supply Fuzzy Creatures? (*If students are concerned only with income and do not have a preference between jobs, the lowest possible price would be $1.50 per creature—or slightly above, e.g., $1.51.*)
   b. If the price of Fuzzy Creatures increased from $1.75 per creature to $2.25 per creature, what would happen to the number of creatures you would be willing to supply? (*It would increase.*)
   c. If the price of Fuzzy Creatures fell from $1.75 to $1 per creature, what would happen to the number of creatures you would be willing to supply? (*It would decrease.*)
   d. If the price of Fuzzy Creatures were $1.75 per creature, and the cost of materials increased from 50¢ to $1.00 per creature, what would happen to the number of creatures you would be willing to supply? (*It would fall to zero.*)

e. If the price of Fuzzy Creatures were $1.75 per creature and you were able to reduce the amount of time it took you to make a creature from an hour to 30 minutes, what would happen to the number of creatures you would be willing to supply? (*It would increase.*)

f. If the price of Fuzzy Creatures were $1.50 per creature and you lost your babysitting job, what would happen to the number of creatures you would be willing to supply? (*It would increase if students still wanted to earn money and were still willing to work for $1.00 per hour.*)

2. **Analyzing the Market Supply of Hot Dogs**

Place the following graph on the board, or give copies to the class. Note that each point on the graph represents both a price and a quantity figure.



a. How many hot dogs are supplied at 25¢? (*None.*), 75¢? (*Three.*), $1.50? (*Eight.*)

b. What happens to the quantity supplied as the price increases? (*It increases.*)

c. What happens to the quantity supplied as the price decreases? (*It decreases.*)

d. What would cause the supply of hot dogs—the amount that people would be willing to sell at each price—to increase? (*Lower cost of materials or labor, fewer profit opportunities elsewhere.*) Where on the graph would the new line representing increased supply be located in relation to the old supply line? (*To the right.*)

e. What would cause the supply of hot dogs to decrease? (*Higher cost of materials or labor, improved profit opportunities elsewhere.*) Where would the new line representing decreased supply be located in relation to the old supply line? (*To the left.*)

3. **Plotting Supply Graphs**

(This is the second in a series of related exercises in Lesson 11 through 13. These exercises are recommended for advanced students.)

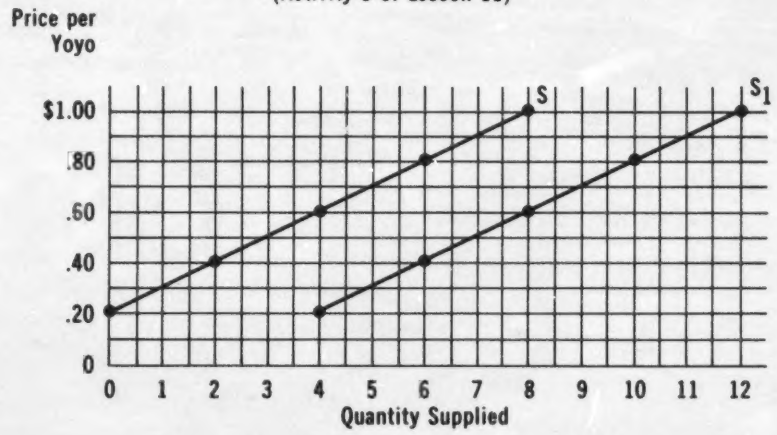
a. Place the following table showing the supply of yoyos on the board or distribute copies. Have your students complete the Total Quantity Supplied, column S, by adding the quantity supplied by each person at each price.

					S	S_1
Price Per Yoyo	QUANTITY SUPPLIED				Total Quantity Supplied	*New Quantity Supplied*
	Steve	Jane	Sue	Fred		
$1.00	0	2	3	3		
.80	0	2	2	2		
.60	0	1	1	2		
.40	0	0	1	1		
.20	0	0	0	0		

b. Distribute graph paper (see sample on page 46) and ask the class to plot the total market supply for yoyos and label the line S (see completed example below).

c. Place the following new quantity supplied figures for yoyos on the board and have the

Market Supply for Yoyos
(Activity 3 of Lesson 11)



students plot these new data on their graphs, connect the points, and label the new line S_1 (see completed example on page 31).

NEW QUANTITY SUPPLIED FIGURES

Price per yoyo	*Quantity Supplied*
$1.00	*12*
.80	*10*
.60	*8*
.40	*6*
.20	*4*

d. Discuss:

- Why does the supply line S slope up and to the right? (*People will be willing to sell more at higher prices than at lower prices.*)
- What happened to the line representing supply when there was an increase in supply? (*It shifted to right—see S_1 on page 31.*)
- What might have caused this increase in supply? (*Lower cost of materials or labor, fewer profit opportunities elsewhere.*)
- If the market supply changed from S_1 to S on your graph, what would this be called? (*A decrease in supply.*) What might have caused this decrease in supply? (*Higher cost of materials or labor, improved profit opportunities elsewhere.*)

LESSON 12

At What Price?

This lesson is about market clearing prices. These are prices at which the amount that people are willing to sell (supply) is equal to the amount that people are willing to buy (demand). Market clearing prices are those at which there is neither a surplus nor a shortage. If a price is above the market clearing price, people will want to sell more than people are willing to buy and there will be a surplus. If a price is below the market clearing price, people will want to sell less than people are willing to buy, and there will be a shortage. On a graph, the market clearing price is found at the point where the upward sloping supply line and the downward sloping demand line intersect, or where supply equals demand.

BEFORE THE PROGRAM

Tell your students that this program is about market clearing prices—a price at which there is neither a surplus nor a shortage. Point out that a surplus means that producers are willing to sell more than consumers are willing to buy. Ask how a surplus will cause prices to change. Point out that a shortage means that consumers are willing to buy more than producers are willing to sell. Ask how a shortage will cause prices to change. Tell students to watch for ways that prices can change to eliminate surpluses and shortages and "clear the market," so that the amount people are willing to buy equals the amount people are willing to sell.

PROGRAM SUMMARY

Bert's father, Mr. Sanborn, owns a sporting goods store. He finds that at a price of $6 he has more bats than he can sell before the winter merchandise arrives. He lowers the price to $3.50, and the surplus begins to disappear. Julie and Jennifer want to buy a shirt for their father, but they find that a shortage of

shirts had developed when the sale price was set too low. They buy their father a bat instead.

The special visuals use supply and demand graphs to illustrate how a lower price can eliminate a surplus, a higher price can eliminate a shortage, and a market clearing price can occur with neither a surplus nor a shortage where supply equals demand.

Later Bert and his friends Abel and Matt set up a cold drink stand at a local swimming pool and try to find a price that will just clear the market without a surplus or a shortage. When the snack bar at the pool charges 35¢ for a large drink and 25¢ for a small drink, the boys find that they do a booming business by charging 15¢. When the store at which they are buying their supplies runs out of cold soda, the boys have to buy ice to chill their drinks and decide to raise their price to 20¢. The snack bar attendant announces a thirty minute "special"—large drinks for only 20¢—and the boys find that their customers disappear and their ice is melting. The program ends with Bert saying that there is "only one thing to do when you are stuck with a surplus . . ." and Matt asking, "What's that?"

GEE, MAYBE I OVERDID IT. THE FRUIT WILL SPOIL BEFORE I CAN SELL IT ALL AT $5.
GOOD PRICE. GETS RID OF THE LONG LINES. BUT JUST GIVE ME A HALF DOZEN.
DOZ.
FRESH FRUIT
$2.00 A DOZ.

THIS PRICE MAKES SENSE TO ME.
YEAH. THE WAY FRUIT IS SELLING NOW, IT WON'T SPOIL AND I WON'T RUN OUT BEFORE THE NEXT SHIPMENT.
FRESH FRUIT
$2.00 A DOZ.

AFTER THE PROGRAM

1. What do you think Bert's suggestion will be? How would this solve the boys' problem? (*Lower the price. If price is the only factor that changes, people buy more of an item as its price decreases. The quantity demanded will increase, and the surplus will disappear.*)
2. Why did Bert and his friends have a surplus of sodas? (*Decrease in demand, due to the decrease in price of the snack bar's large drinks.*)
3. What would happen if the boys set their price too low? Say 5¢? Explain in terms of supply and demand. (*There would be a shortage. At a price of 5¢, the quantity demanded would exceed the quantity supplied.*)
4. Why did the boys raise the price from 15¢ to 20¢? (*The cost of their inputs or materials increased—they needed a bag of ice to cool their drinks.*)
5. Below is one possible supply schedule and demand schedule for the boys' soda where such factors as taste, advertising, and the price of substitute goods remain constant. Put this information on the board. You might also have your students plot this information on a graph with price on the vertical axis and quantity on the horizontal axis.

Price per Cold Drink	Quantity Demanded	Quantity Supplied
10¢	25	5
15¢	20	10
20¢	15	15
25¢	10	20

- Under these conditions, what is the market clearing price? (*20¢.*)
- Under these conditions, how many cold drinks would people want to buy at a price of 20¢? (*15.*) How many cold drinks would the boys want to sell at a price of 20¢? (*15.*)
- What would happen if, under these conditions, the boys set their price at 25¢? (*There would be a surplus of 10 drinks. Use the following questions to establish this point.*) How many drinks would people want to buy at a price of 25¢? (*10.*) How many drinks would the boys be willing to sell at a price of 25¢? (*20.*) If the boys want to sell 10 more drinks than people want to buy at a price of 25¢, what would the situation be called? (*Surplus.*) How might this surplus be eliminated? (*Lower the price to 20¢.*)

- What would happen if, under these conditions, the boys set their price at 15¢? (*There would be a shortage of 10 drinks. Use the following questions to establish this point.*) How many drinks would people want to buy at a price of 15¢? (*20*). How many drinks would the boys be willing to sell at a price of 15¢? (*10.*) If people want to buy 10 more drinks than the boys are willing to sell at a price of 15¢, what would the situation be called? (*Shortage.*) How might this shortage be eliminated? (*Raise the price to 20¢.*)

6. Below is one possible new demand schedule (D_1) for the boys' cold drinks.

Price per Drink	New Quantity Demanded (D_1)
10¢	15
15¢	10
20¢	5
25¢	0

Add this new information to that already on the board (you might also have your students plot this additional information on their graph) and ask the following questions:

- Under these new (D_1) conditions, what is the market clearing price? (*15¢.*)
- Under these new conditions, how many cold drinks would people want to buy at a price of 15¢? (*10.*) How many cold drinks would the boys be willing to sell at a price of 15¢? (*10.*)
- What would happen if, under these (D_1) conditions, the boys set their price at 20¢? (*There would be a surplus of 10 drinks. The quantity supplied at 20¢ is 15, but the quantity demanded at 20¢ is now only 5.*) How might this surplus be eliminated? (*Lower the price to 15¢.*)
- What would happen if, under these (D_1) conditions, the boys set their price at 10¢? (*There would be a shortage of 10 drinks. The quantity demanded at 10¢ is now 15, but the quantity supplied at 10¢ is only 5.*) How might this shortage be eliminated? (*Raise the price to 15¢.*)

7. Why was Bert's father unwilling to put the rafts in his store on sale? (*At the present price he felt that the quantity demanded by buyers would equal the quantity he was willing to sell. At this, the market clearing price, there was neither a surplus nor a shortage.*

OTHER ACTIVITIES

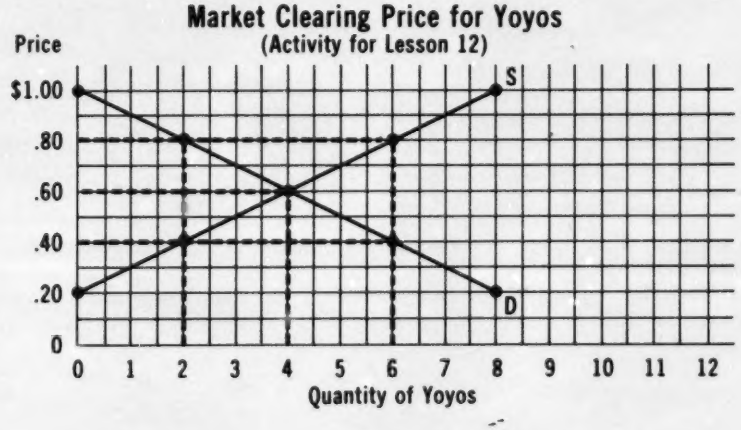
Determining the Market Clearing Price for Yoyos

(This is the third in a series of related exercises in Lessons 10 through 13. These exercises are recommended for advanced students.) Use the data and the graphs used in Activity 3 of Lesson 10 and Activity 3 of Lesson 11 to determine the market clearing price for yoyos. (Data reproduced below. Also see graph on page 47.) For this lesson you may wish to emphasize the market clearing price for yoyos by simply using the data for D and S.

Changes in the market clearing price with various combinations of changes in supply and demand, however, can also be treated at this point if you wish. Lesson 13 emphasizes the results of changes in market clearing prices, and Activity 5 in that lesson uses these same data for yoyos.

Price per Yoyo	D Quantity Demanded	S Quantity Supplied
$1.00	0	8
.80	2	6
.60	4	4
.40	6	2
.20	8	0

Put the table shown above with the supply and demand data for D and S on the board or distribute copies. Also distribute graph paper (see sample on page 47) and have your students plot both the sup-



ply and the demand data on the same set of axes. (See completed example on page 34.)

Discuss:

a. At a price of 80¢ per yoyo: What is the quantity demanded? (*Two.*) What is the quantity supplied? (*Six.*) Is this price a market clearing price? (*No.*) Why? (*The quantity supplied is greater than the quantity demanded at this price, and there is a surplus of four yoyos.*)
b. At a price of 40¢ per yoyo: What is the quantity demanded? (*Six.*) What is the quantity supplied? (*Two.*) Is this price a market clearing price? (*No.*) Why? (*The quantity supplied is less than the quantity demanded at this price, and there is a shortage of four yoyos.*)
c. At a price of 60¢ per yoyo: What is the quantity demanded? (*Four.*) What is the quantity supplied? (*Four.*) Is this price a market clearing price? (*Yes.*) Why? (*At this price, the quantity supplied is equal to the quantity demanded, and there is neither a surplus nor a shortage.*)

LESSON 13

How Could That Happen?

This lesson emphasizes the interdependence of market prices—that markets do not operate in isolation. Changes in supply, demand, and market clearing prices in one market have important, and often unforeseen, effects in other markets as well. Price changes act as signals to both producers and consumers and affect what is produced, how it is produced, and how it is distributed. Market prices help tell us how to spend income, where to work, and where to save.

This lesson pulls together the basic ideas of the preceding three lessons and illustrates how the invisible hand of market forces affects our lives. It is important to note how the quantities bought and sold change as market clearing prices change. If prices go up because of increased demand, people are buying more, but if prices go up because of decreased supply, they are buying less. Likewise, if prices go down because of increased supply, people are buying more, but if the prices go down because of decreased demand, they are buying less.

BEFORE THE PROGRAM

Tell your students that this program is about changes in supply and demand that lead to unexpected results. Ask them to watch and see how the success of a young singer, Arnie Oates, can lead to an increase in the supply of hamburgers and a decrease in the supply of football helmets.

PROGRAM SUMMARY

A series of special visuals employing supply and demand diagrams is interwoven with the live action segments of this program to illustrate how the discovery of Arnie Oates leads to a new music craze. The music craze in turn sets off a chain of events that affects corn farmers, beef suppliers, chemical

manufacturers, raincoat makers, bicycle tire manufacturers, and many others who might not even realize that their fate has been affected by Arnie Oates—all because of the interdependence of market prices. The program ends with the narrator saying "... you probably wouldn't think that when millions of young people started buying skateboards it could cause an increase in the price of underwear. *How could that happen?*"

Note: This program contains the three extended examples of interdependent markets summarized below.

Market	Changes			
	Demand	Supply	Price	Quantity
Movie Attendance	Decreased		Decreased	Decreased
Popcorn at the movies	Decreased		Decreased	Decreased
Regular corn		Increased	Decreased	Increased
Cattle		Increased	Decreased	Increased
Hamburger		Increased	Decreased	Increased
Records	Increased		Increased	Increased
Chemicals				
for records	Increased		Increased	Increased
for raincoats		Decreased	Increased	Decreased
Raincoats		Decreased	Increased	Decreased
Bicycles	Decreased		Decreased	Decreased
Bicycle tires	Decreased		Decreased	Decreased
Motorcycle tires		Increased	Decreased	Increased
Motorcycles		Increased	Decreased	Increased
Motorcycle helmets	Increased		Increased	Increased
Football helmets		Decreased	Increased	Decreased

AFTER THE PROGRAM

1. How could people buying more skateboards cause an increase in the price of undewear? (*There is more than one possible answer to this question. Students should be encouraged to use their imagination as well as demonstrate an understanding of the interdependence of market prices. Some possible answers are outlined below.*)

Market	Changes			
	Demand	Supply	Price	Quantity
Skateboards	Increased		Increased	Increased

Assuming that the increasing use of skateboards leads to more accidents, there are at least two explanations for an increase in the price of underwear, and these explanations might be combined into a third, more complex explanation.

Explanation 1

The increase in accidents results in torn clothes.

Underwear	Increased		Increased	Increased

Explanation 2

The increase in accidents results in cuts and bruises

Bandages	Increased		Increased	Increased
Cloth				
for bandages	Increased		Increased	Increased
for underwear		Decreased	Increased	Decreased
Underwear		Decreased	Increased	Decreased

Combining the Results of Explanations 1 and 2

Underwear	Increased	Decreased	Increased	Uncertain

2. Review the episodes in the program summarized in the chart above by having your students indicate in some manner (such as "thumbs up" or "thumbs down") the direction of change for demand, supply, price, and quantity in each episode you give them. For example: How was the demand for movies affected by Arnie Oates' popularity?

OTHER ACTIVITIES

1. Have your students use the thumbs up and thumbs down procedure to indicate how the following events (not shown in the program) would affect the supply, demand, price, and quantity sold of oranges.
   - Severe storm destroys many Florida oranges. (*Supply* , *price* , *quantity* .)
   - A newspaper story states that oranges may cause stomach disorders. (*Demand* , *price* , *quantity* .)
   - More oranges are grown. (*Supply* , *price* , *quantity* .)
   - An apple blight causes the price of apples to increase. (*Demand for oranges* , *price of oranges* , *quantity of oranges* .)
2. Write the following headlines on the board and ask the class to discuss them in terms of supply and demand:

No End in Sight for Oil Shortage

How would this affect the demand for clothes made of natural fibers? (*Decrease in supply of oil results in decrease in supply of petrochemicals used to produce many things, including permanent press clothes. As the price of petrochemicals goes up, the quantity of petrochemicals purchased decreases. As the cost of materials for permanent press clothes increases, the supply of such clothes decreases, price increases, and consumers buy fewer permanent press garments and increase their demand for clothes made of natural fibers.*)

Sugar Crop Destroyed

What effect would this have on the sale of popcorn and other candy substitutes? (*Sugar supply*

decreases. Sugar prices increase, which increases the cost of producing candy. Candy prices increase. Consumers buy less candy and buy more candy substitutes.)

Homework assignment: Ask students to bring in actual newspaper headlines that can be discussed in terms of market effect.

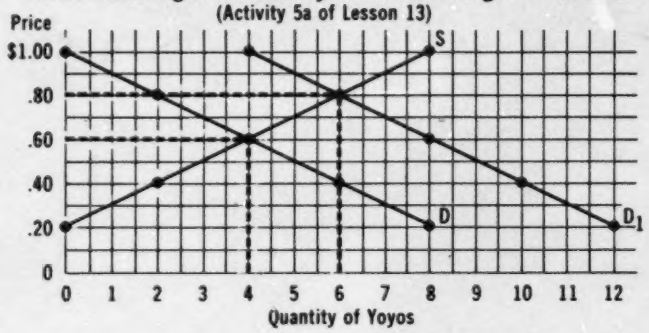
3. Have students, individually or in groups, write supply and demand riddles on cards (see Activity I for an example). Have them exchange cards with classmates and solve the riddles using supply and demand analysis.

4. **Reviewing Market Clearing Prices for Yoyos**

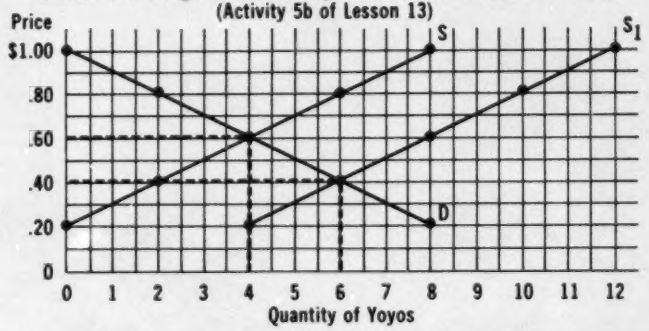
(This is the last in a series of related exercises in Lessons 10 through 13. These exercises are recommended for advanced students.) Use the following data for yoyos and the graphs on page 47 to review changes in market clearing prices and quantities under the different circumstances outlined below.

Price per Yoyo	D Quantity Demanded	S Quantity Supplied	D_1 Quantity Demanded	S_1 Quantity Supplied
$1.00	0	8	4	12
.80	2	6	6	10
.60	4	4	8	8
.40	6	2	10	6
.20	8	0	12	4

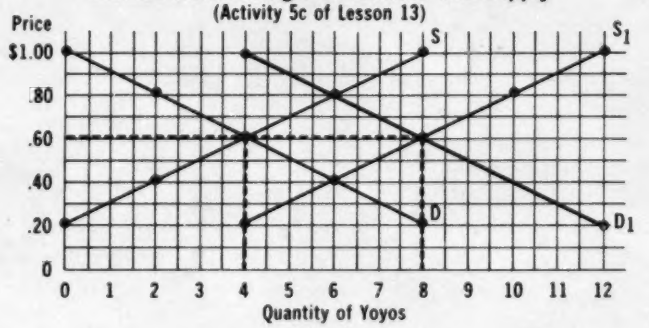
Market Clearing Price for Yoyos with a Change in Demand
(Activity 5a of Lesson 13)



Market Clearing Price for Yoyos with a Change in Supply
(Activity 5b of Lesson 13)



Market Clearing Price for Yoyos with Simultaneous Changes in Demand and Supply
(Activity 5c of Lesson 13)



a. Changes in Demand with Supply Constant
   - If we begin with supply S and demand D, what is the market clearing price of yoyos? (*60¢.*) What is the market clearing quantity? (*Four yoyos.*)
   - If demand increases from D to D_1, what happens to the market clearing price? (*It increases to 80¢.*) What happens to the market clearing quantity? (*It increases from four to six yoyos.*)
   - If demand then decreases from D_1 to D, what happens to the market clearing price? (*It decreases to 60¢.*) What happens to the market clearing quantity? (*It decreases from six to four yoyos.*)

b. Changes in Supply with Demand Constant
   - If we begin with supply S and demand D, what is the market clearing price of yoyos? (*60¢.*) What is the market clearing quantity? (*Four yoyos.*)
   - If supply then increases from S to S_1, what happens to the market clearing price? (*It decreases to 40¢.*) What happens to the market clearing quantity? (*It increases from four to six yoyos.*)
   - If supply then decreases from S_1 to S, what happens to the market clearing price? (*It increases to 60¢.*) What happens to the market clearing quantity? (*It decreases from six to four yoyos.*)

c. Simultaneous Changes in Demand and Supply
   - If we begin with supply S and demand D, what is the market clearing price of yoyos? (*60¢.*) What is the market clearing quantity? (*Four yoyos.*)
   - If demand then increases from D to D_1 and supply increases from S to S_1, what happens to the market clearing price? (*It remains unchanged at 60¢.*) What happens to the market clearing quantity? (*It increases from four to eight yoyos.*)
   - If supply then decreases from S_1 to S and demand decreases from D_1 to D, what happens to the market clearing price? (*It remains unchanged at 60¢.*) What happens to the market clearing quantity? (*It decreases from eight to four yoyos.*)

LESSON 14

Innocent Bystanders

This lesson deals with ways of reducing the indirect cost that occurs when the actions of some people are harmful to others not directly involved. Since the buyer and seller do not have to pay for all of the cost involved, goods or services that inflict indirect costs on others tend to be over-produced. Some ways that indirect cost can be reduced are prohibition, taxes or "user fees," and subsidies. Which, if any, of these alternative ways of reducing indirect cost one favors, depends on the criteria one uses to evaluate the alternatives. Thus, the problem of indirect cost lends itself to application of the five-step decision-making process emphasized in earlier lessons.

BEFORE THE PROGRAM

Tell your students that this program is about how the actions of some people are harmful to others who are not directly involved. Ask them to watch for ways of dealing with the problem created when the music of Jerry's rock band is not as pleasing to some people as it is to the customers of the band's employer, Mr. Slattery.

PROGRAM SUMMARY

Jerry Miller's band can only practice on Friday evenings at his house. The noise upsets his sister who can no longer entertain her friends; his neighbor, Mrs. Gillespie, whose Friday evening chamber group has difficulty performing; and Mrs. Miller who wants the group to earn money, but is upset over the band's use of her living room and the dissension between Jerry, his sister, and neighbors.

The TV show "Innocent Bystanders" attempts to solve the problem. The emcee asks each contestant for a proposed solution. Jerry's suggestion is to do nothing, which maintains his freedom to practice. Mrs. Gillespie's suggestion is "prohibition," because the noise infringes upon her right to peace and quiet. Mrs. Miller proposes a new location, suggesting that her basement be fixed up and paid for by a user fee charged to Mr. Slattery's customers who benefit from the band's practice. Jerry disagrees and suggests that the basement renovations be paid for by a subsidy from Mrs. Gillespie's group, which would benefit from the resulting peace and quiet. The participants get carried away in their debate and the meeting ends in confusion.

The special visuals introduced at the end of the program review the alternatives of prohibition, new location: user fee, new location: subsidy, and do nothing along with the criteria of Jerry's freedom, peace and quiet, and "who benefits?". A decision-making grid is outlined, and the program ends with the viewer being asked "Which alternative would you choose?"

AFTER THE PROGRAM

1. What is the problem in the Miller neighborhood? (*Jerry's band needs to practice. The noise disturbs others. Bring out that intervention may be needed because the price charged to listen to the band is not high enough to cover all of the cost of the adverse effects of the band's practice.*)
2. What are some of the alternatives? (*Encourage your students to offer alternatives other than those listed above.*)
3. What criteria can be used to evaluate the alternatives? (*Encourage your students to offer criteria other than those listed above.*)
4. How do you evaluate the alternatives? (*Place a decision-making grid similar to the one below on the board. Ask the class to fill it in as they evaluate each alternative in terms of each criterion. Encourage discussion. Different students may attach different importance to the different criteria.*)

	Criteria				
			Who Benefits		
Alternatives	Jerry's Freedom	Peace and Quiet	Customer Pay	Neighbor Pay	Other
Do Nothing	+	—			
Prohibition	—	+			
New Location: User Fee	+	+	+		
New Location: Subsidy	+	+		+	
Other					

5. Which alternative would you choose? (*Have students vote for the alternative that they think is best. Record the votes and report the results. Encourage further discussion to clarify differences in values in your class.*)

OTHER ACTIVITIES

1. **Identifying Indirect Costs**

   Ask the students for examples of indirect costs in your own community. Have them find out from parents, neighbors, or local authorities what, if anything, is being done to reduce these indirect costs.

2. **Simulating a Community Meeting**

   At 7 a.m. every Saturday morning the Blue Comet softball team practices on Saunders Field. This field is surrounded by private homes. The noise interferes with the residents' sleep. They think the team should practice later in the day. Since the field is for everyone's use and can't be reserved, the team can only be sure that the field will be vacant at 7 on Saturday. A community meeting is held to find a solution. Assign students to play roles such as affected residents, softball team members, team's coach, Community Association president. Give each an opportunity to present a solution and defend it. After discussing the alternatives, ask the students to explain in writing which solution they think best and why. Have the students share their choices with the class.

3. **Solving Noise Problems**

   A school in Hazelton is located near an airport. Over the years the noise level has increased to the point where children at the school are experiencing hearing and emotional problems, and teachers find it difficult to conduct classes. Have your class discuss possible solutions and the advantages and disadvantages of each. During the discussion emphasize that the problem exists because the prices paid by users of the airport do

not cover all of the costs involved. Possible solutions:

- User tax—increase the cost of using the airport thereby decreasing its use. The revenue collected can be spent to soundproof the school.
- Relocate the airport or relocate the school.
- Prohibit or limit air traffic during school hours.
- Change school hours to times when the volume of air traffic is lowest.

After the discussion, explain to the students that they are paid consultants brought in to solve this problem. Each is to write a report recommending one of the alternatives, explaining why it is the best. They may wish to include reasons why they found the other alternatives less desirable.

ENJOYING THE TREE? I PUT IT IN YEARS AGO. IT COST ME $25.
IT'S GREAT. I GET SHADE AND APPLES AND I DON'T HAVE TO PAY A THING.
THERE ARE YOUR INDIRECT BENEFITS.
OH THE OTHER HAND, OUR NEIGHBORS GET ONLY THE LEAVES.
THAT'S THEIR INDIRECT COST, RIGHT?
RIGHT!

LESSON 15

Helping Out

This lesson deals with ways of increasing the indirect benefits that occur when the actions of some people are helpful to others not directly involved. Since buyers and sellers do not receive all of the benefits involved, goods and services that provide indirect benefits to others tend to be underproduced. Some ways that indirect benefits can be increased are compulsion and fine, subsidies, and non-compulsory encouragement. Which, if any, of these alternatives one favors depends on the criteria one uses to evaluate the alternatives. Thus, the problem of indirect benefits lends itself to application of the five-step decision-making process emphasized in earlier lessons.

BEFORE THE PROGRAM

Tell your students that this program is about how the actions of some people are helpful to others who are not directly involved. Ask them to watch for ways of dealing with the problem created when a community cannot be sure that all dogs have been vaccinated against rabies.

PROGRAM SUMMARY

The program opens with the first segment of the special visuals, which asks viewers to observe how Sarah Hambley is affected by the actions of a man she never sees.

Sarah is bitten by a dog that has no license or tags. If it can't be determined that the dog has been vaccinated against rabies, Sarah will have to undergo a series of painful shots. A suspenseful investigation finally discovers that the dog's former owner, Mr. Goodbody, paid to have his dog, Shogun, vaccinated.

Greatly relieved, Sarah's parents think that something must be done to ensure that all dogs are vaccinated, since some people, unlike Mr. Good-

body, may not be willing to pay for the necessary shots.

The second segment of the special visuals presents the alternatives of fine owners, subsidy, and encouragement, along with the criteria of owner's freedom, owner's responsibility, and "who benefits?". A decision-making grid is outlined, and the program ends with the viewer being asked "Which alternative would you choose?"

AFTER THE PROGRAM

1. What is the problem? (*We can't be sure that all dogs have been vaccinated for rabies. Bring out that intervention may be needed because some owners may not be willing to pay the price of shots since they do not receive all of the benefits.*)
2. What are some of the alternatives? (*Encourage your students to offer alternatives other than those listed above.*)
3. What criteria can be used to evaluate the alternatives? (*Encourage your students to offer criteria other than those listed above.*)
4. How do you evaluate the alternatives? (*Place a decision-making grid similar to the one below on the board. Ask the class to fill it in as they evaluate each alternative in terms of each criterion. Encourage discussion. Different students may attach different importance to the different criteria.*)

	Criteria				
Alternatives	Owner's Freedom	Owner's Responsibility	Who Benefits? Everyone	Who Benefits? Owner	Other
Fine Owners	—	+	+	—	
Subsidy	+	—	+	+	
Encouragement	+	+	+	+	
Other					

5. Which alternative would you choose? (*Have students vote for the alternative that they think is best. Record the votes and report the results. Encourage further discussion to clarify differences in values in your class.*)

OTHER ACTIVITIES

1. **Identifying Indirect Benefits**

   Ask the students for examples of indirect benefits within your community. Have them find out from parents, neighbors, or local authorities what, if anything, is being done to promote such benefits.

2. **Writing to the Editor**

   Read the following article to the class and ask the students to respond to Councilman Brown's proposal by writing a letter to the editor supporting or rejecting it and explaining why.

   Local Youth Injured in Bike Mishap

   Thirteen year old Jennifer Bogis, of this city, was injured yesterday evening while riding her bicycle along Route 13. According to observers, Jennifer was riding north in the southbound lane when struck by an oncoming automobile. The bicycle had no lights or reflectors and the driver of the automobile stated that he had been unable to see the rider until too late. Jennifer was taken to the hospital where she was treated for abrasions. She is listed as in good condition.

   According to City Councilman Harold Brown, "This is one more example of the need for a bike safety program for kids." Councilman Brown estimates that such a program would cost approximately $20 per child. He suggested that the Council subsidize such a program and offer it free to young bicyclists.

   Suggest to your students that they consider the following before writing:

   a. Why might market intervention be necessary? (*The market price of bicycle safety courses is too high and the benefits are underproduced.*)
   b. What other alternatives are available? (*Do nothing, license bicycle riders and require the course before issuing the licenses, subsidize the course so that more people will take it.*)
   c. What criteria might be used to evaluate the alternatives? (*Safety, rider's freedom, rider's responsibility, "who benefits?".*)
   d. How do you evaluate the alternatives? (*Use a decision-making grid similar to the one at left.*)
   e. Which alternative would you choose? (*Use a procedure similar to the one at left.*)

3. Discuss situations in which market intervention is usually needed to increase indirect benefits. Some suggested examples are:

   - Public education.
   - Boat safety.
   - Red Cross life saving courses.
   - Keeping sidewalks in front of private homes free of snow and ice.

   For each discuss:

   - Why is market intervention needed?
   - What method of market intervention is usually used?
   - What goal or goals are being achieved?
   - What alternative methods might be used?

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'Trade-offs' Films and Videocassettes

Individual "Trade-offs" programs on 16mm color film and videocassettes can be purchased from AIT. Preview prints with film guides are offered to prospective purchasers without charge except for return postage. Special prices are available to "Trade-offs" consortium agencies and to those entitled to service from a consortium agency (see inside front cover). For further information write to the consortium agency for your state or province, or to:

Agency for Instructional Television
Box A
Bloomington, Indiana 47401
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Supporting Materials and Activities

The Joint Council on Economic Education and the Canadian Foundation for Economic Education are providing materials and services to aid in teacher training and to stimulate educator and community awareness of "Trade-offs." The Council and the Foundation are holding regional leadership training seminars throughout the United States and Canada for persons who will conduct teacher workshops. They have developed a workshop leader's handbook, community action kits, press kits, informational brochures, and a twelve-minute informational film on the nature of "Trade-offs." Staff members from JCEE and CFEE also are available for talks and demonstrations.

Further information on the supporting materials and services can be obtained from:

Joint Council on Economic Education
1212 Avenue of the Americas
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Canadian Foundation for Economic Education
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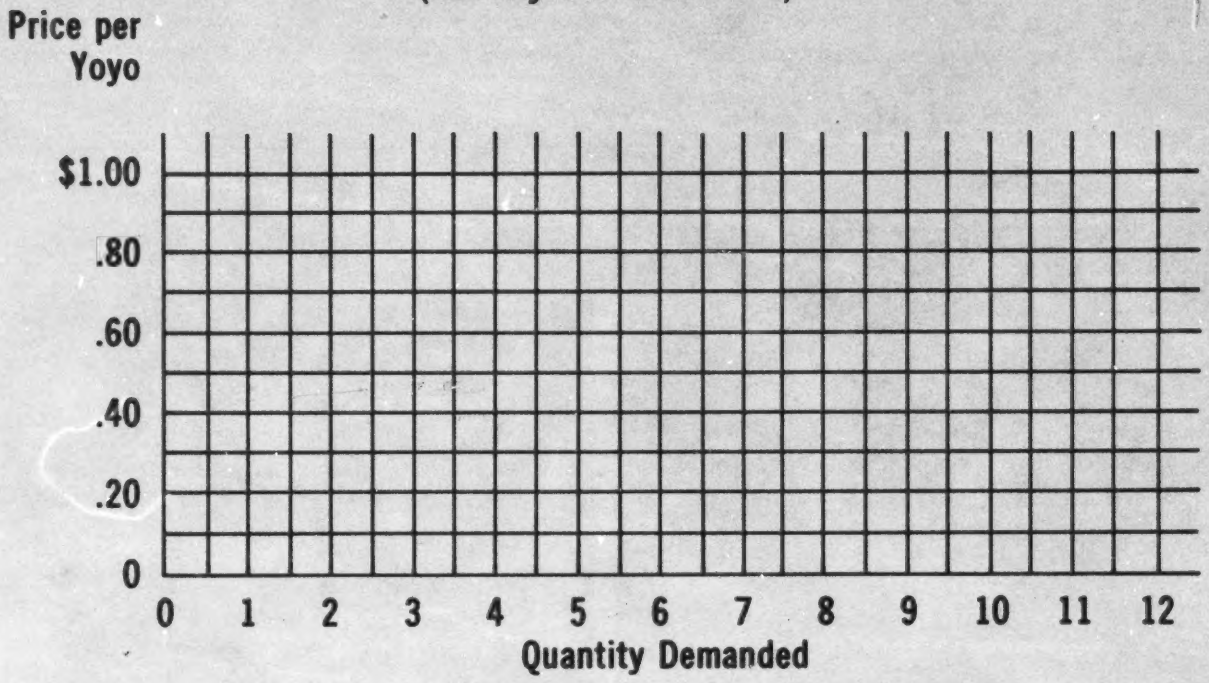
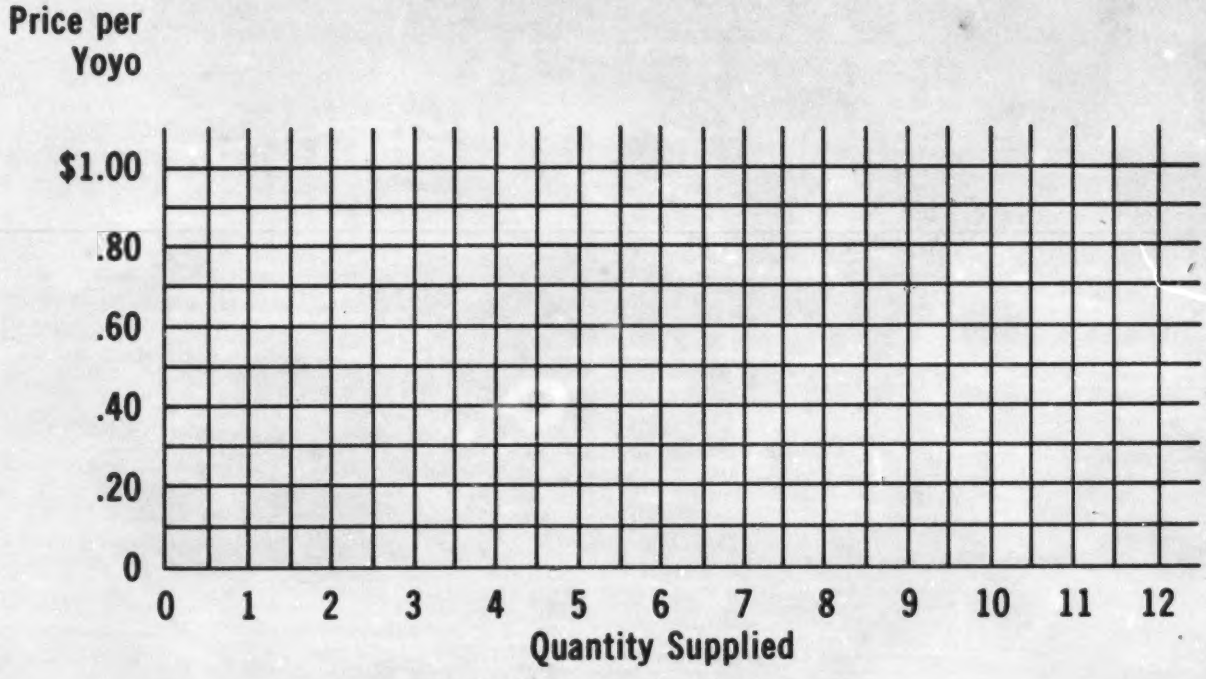
Trade-offs

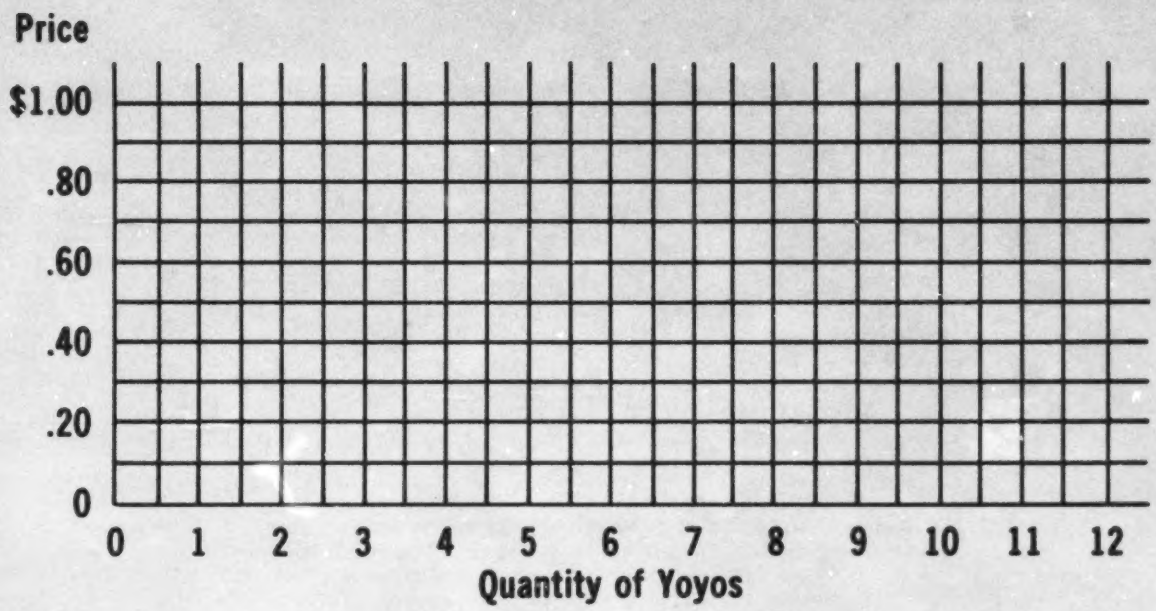
Market Demand for Yoyos
(Activity 3 of Lesson 10)



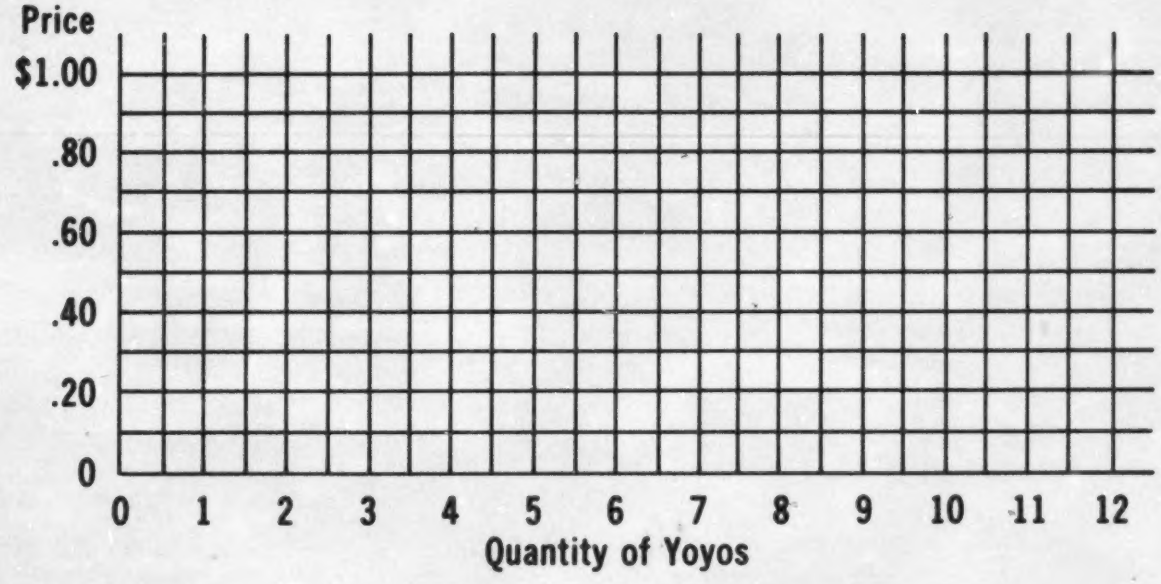
Market Supply for Yoyos
(Activity 3 of Lesson 11)



Market Clearing Price for Yoyos
(Activity for Lesson 12)



Market Clearing Price for Yoyos with Simultaneous Changes in Demand and Supply
(Activity 4c of Lesson 13)



The Agency for Instructional Television is a nonprofit American-Canadian organization established to strengthen education through television and other technologies. AIT develops joint program projects involving state and provincial agencies, and acquires and distributes a wide variety of television and related printed materials for use as major learning resources.

The Canadian Foundation for Economic Education is a federally chartered nonprofit organization dedicated to strengthening economics instruction in Canada. It aims to promote greater economic awareness by helping educational systems improve the quality and expand the quantity of economics now being taught in schools and colleges.

The Joint Council on Economic Education is a nonprofit, nonpartisan, educational organization, incorporated in 1949 to provide leadership in economic education in the United States. Affiliated agencies include forty-nine state councils and one hundred and seventy-five centers for economic education on college and university campuses.

Trade-offs Related Skills Matrix